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ESSAYS ON PUBLIC DEBT IN HISTORICAL PERSPECTIVE.

THE COLOMBIAN EXPERIENCE.

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ABSTRACT

Two main questions are addressed in this work. First, the evolution of public debt ideas over the last six decades. We argue that public debt is an area of academic work in which new developments and controversies have been highly influenced by changes in the economic context. Second, the public debt experience of a developing economy, Colombia. We show how the access of the country to external financing has largely depended on activity in international capital markets, and how a long-term relationship between the country and her creditors has been forged through historical sequences of loans, defaults, and renegotiations. Regarding the internal public debt, we argue that it has played the role of shock absorber, and the formalization and empirical scrutiny of this idea is central to the econometric sections.

TO MY WIFE ELISA, WITH LOVE

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General introduction

The public debt has been a controversial topic which has attracted the attention of politicians and social scientists since at least the 18th century. Only this century the debate has reached high points during extraordinary economic and political events. Some of these episodes have not been limited to national boundaries but have had worldwide repercussions. The interwar period is full of examples: the large public debts accumulated by major European economies during the 1920s, the outbreak of sovereign default which spread from Latin America to East Europe and Germany in the early 1930s, and the default by the allies on World-War-I debts with the government of the United States. Large national debts were again a subject of contention during World War II, particularly in the United States. Finally, the developing-country debt crisis and the likely unsustainable debt paths of some OECD economies revived the controversy during the 1980s.

Economists have been largely involved in these debates. Admittedly, the profession has been bound to offer explanations of the causes and effects of enlarged public debts and related problems, and to recommend possible policy measures.

In this context of historical facts concerning public debt in both industrialized and developing economies, and controversies in which economists have played a role, the origin of this study was two questions. First, what have been the contributions of economists to the public debt debate since the worldwide economic crisis of the early 1930s to the late 1980s? Certainly, most of these contributions have been formulated in advanced economies, and to a great extent in connection with economic circumstances of those economies. The second question is concerned not with the theory of public debt, but with public debt as an historical fact in developing economies. The record of sovereign debt since the 19th century has

widely involved developing economies, and attention has been mainly focused on the relationship of these economies with international capital markets. No great attention is dedicated to the internal debt, nor to the relative function of the internal and external debts in developing economies. The second question thus bears on the historical experience with public debt of a developing economy -Colombia in our case-, and particularly, on the inter-relationships between the external and the internal public debt.

Let us first discuss the two questions in turn, and later explain how we plan to integrate them into the study. Regarding the contributions to the theory of public debt, the aim is to examine them in historical perspective. Our hypothesis is that public debt is an area of economic research in which the influence of changing events during the last six decades has been apparent. We do not suggest a mechanical causality running from episodes to theories, but highlight a strong correlation between facts and the emergence or revival of theoretical issues. The historical perspective is also akin to recognize possible links between theories, however divergent they are, as well as similarities and disagreements.

As for the public debt experience of a developing economy, the choice of Colombia offers some interesting features. As international debtor, the country was one of the major borrowers during the first modern cycle of British capital exports in the 1820s. A century afterwards, Colombia was a notable borrower during the U.S. lending boom of long-term private funds. Recently, in the 1980s, Colombia appeared again in the list of highly-indebted countries, and importantly, as the only commercial borrower in Latin America which did not share in rescheduling programs during the decade. Its record as sovereign debtor does not exhaust the richness of the Colombian experience, however. Colombia's experience with public debt, we argue in this study, cannot be properly understood without a simultaneous consideration of the internal and the external debt. In this work we show that for economic and institutional reasons the external debt and the internal debt have played different functions. This diversity of roles is crucial for the definition of our underlying model, as we explain below.

How do we plan to integrate our two original questions in the thesis? So far the common factor between these two questions is the historical perspective. Economists work with models, and so our aim is to find the elements of a model which captures salient features of the Colombian experience with public debt. There is a wealth of aspects in that experience which a researcher well aware of the theoretical debates would be tempted to consider. We propose to examine the following aspects which can be treated as a whole unit. First, the share of the country in the boom-and-bust cycles of foreign lending, which make the external credit to be largely exogenous. Second, the long-term relationship between creditors (British and U.S. investors, developmental organizations, international commercial banks) and debtors (national government, other government entities and corporations) which takes the form of an implicit contract which survives possible breakups of formal debt contracts. Third, the role of the internal public debt as a shock absorber regarding shocks on the availability of external financing to the country, other external shocks (on exports and imports), and government expenditure shocks.

The three aspects just mentioned form the basis of our underlying model throughout most of the thesis (Parts II, III, and IV). We do not pretend to formalize all of them, however. For the purpose of formal empirical analysis we will only concentrate on the third one. In order to define a theoretical model, we look for guidance in the theoretical contributions that have recognized a shock absorber function to the public debt. We also examine historical evidence regarding the Colombian experience; this step is not only important but crucial, since the different roles of both external and internal debts mentioned above is revealed by historical documentation concerning the country, and not by theoretical priors. Additional pertinent statistical information (e.g. trends and cycles of relevant variables) is obtained from available sample information. In the final step we integrate all sources of information to derive empirical econometric models.

How do we organize this thesis? We have written four parts as follows:

Part I. Contributions to the theory of public debt, 1930-90.
This part is formed by six sections which discuss the theoretical debates on public debt since the world crisis of the 1930s. As a whole, these sections attempt to answer our first original question.

Part II. Stylized facts on public debt in Colombia and related issues.
This part can be seen as a preamble for our econometric and historical discussions in Part III and Part IV. In this part the reader will be informed about "broad characteristics" of the economy during the period of study, and will receive general statistical information about the series used in our econometric analysis.

Part III. The behaviour of the internal public debt in Colombia. Econometric analysis.
In this part we formally test the hypothesis of the shock absorber role of the internal public debt. Two different models, each one in a different section, are discussed and estimated.

Part IV. The public debt in Colombia. From the Pax Britannica to the interwar period.
Three sections form this part, each one dedicated to illustrate in historical terms each one of the three aspects which define the underlying model.

A final point about periods of research and sources of information. The empirical analysis covers the period 1925-1985. Our historical enquiry also covered that period, but we have chosen to submit the results of our research regarding only the Colombian experience during the interwar period and some important antecedents during the Pax Britannica. The historical discussion of this experience allows us to examine a full cycle of external indebtedness since the creation of debt contracts through periods of default and renegotiation. Unlike the very recent experience of the 1970s and 1980s, the interwar period is old enough to have access to private sources of information regarding the flotation, default and renegotiation of

external loans. Section II and Section III in Part IV were made possible by the access to those unpublished sources of information.

PART I

CONTRIBUTIONS TO THE THEORY OF PUBLIC DEBT, 1930-1990

INTRODUCTION

Budget deficits and the public debt have been permanent issues of controversy in the economics profession. Our aim is to review the developments of that debate during the period 1930-1990. However, we will occasionally consider contentions of earlier periods as long as they are important to understand recent discussions. Our guiding criterion is to review the literature in the context of the times and events in which contributions to the public debt debate were made. From this angle we observe the following characteristics in the historical perspective of public debt theories:

First. Lastingness appears to be a characteristic of central public debt issues. Some examples can be offered. For instance, crucial questions such as whether public debt is part of wealth, or whether public debt places a burden on future generations were topics of lively debate not only in the 1970s, but also in the 1960s, and during World War II. They were also present in Ricardian writings and even central issues in mercantilist arguments. But perhaps the most essential question, that of whether or not public debt "matters" has been a permanent subject of contention at least since Ricardo.

Second. Progress is also apparent in the approaches and methods followed by economists over time to tackle those permanent issues. An outstanding example is the debt neutrality controversy. Recent neoclassical approaches (1980s) to this controversy (Section VI below) have a major explanatory power than those of David Ricardo (Section II) and even than more modern theories such as those developed in the context of the neoclassical synthesis (Section I). Further illustrations are offered by other public debt topics. For instance, the burden-of-the-debt controversy as treated in life-cycle frameworks of the 1980s (Section IV)

is more powerful than in Hume's times, and even than in the life-cycle models of the early 1960s.

Third. Public debt theories appear to have been highly influenced by changes in the economy. In this century, the Great Depression of the 1930s, the general prosperity of the first twenty five years after World War II, and the slowdown with inflation which affected OECD economies in the 1970s, seem to have challenged existing predominant ideas about public debt. With changing scenarios new questions attracted the attention of economists, and new answers were expected from them. Some illustrations are in order. In the early 1940s it was already clear that the consensus about continuously balanced government budgets had broken down, and a new consensus about cyclically balanced budgets was already in place; the reflection on the experiences of the Great Depression and World War II provided the foundation for a new view and policymaking.

The questions faced by the economists community could not be the same in the mid-1940s when stagnation was the general prediction for the aftermath of the war, and in the mid-1950s when unprecedented high growth rates, low unemployment rates and low inflation rates were characteristic in most OECD countries. Economists were no longer worried by the menace of unsustainable public debt figures which had provoked important contributions of Keynesian followers (Section I). By the end of the 1950s the public debt to GDP ratios were substantially lower than those achieved at the end of the war, and success in control of the business cycle in the first post-war decade stimulated academic interest in economies working close to full employment. The neoclassical synthesis was to flourish in this economic and academic milieu, and a variety of theories about the role of public debt in full employment economies emerged.

The life-cycle literature of the mid-1950s made explicit potential negative effects of public debt on capital accumulation; in this case, temporary budget deficits would only be acceptable if followed by immediate budget surpluses. The economic environment of the

late 1950s was also propitious for the revival of theories in favour of continuously balanced budgets, some of which condemned public debt for its alleged adverse effects on the consumption of future generations (Section II).

Optimal nonmonetary growth models à la Ramsey brought into being in the 1920s and forgotten for two decades after the outbreak of the Great Depression became a central approach to growth modelling in the 1960s; in this context, strong results characterize government intervention in the decentralized economy: with nondistortionary taxation and for a given level of government spending, neither the size of debt nor the method of finance affect capital accumulation.

The 1970s offer a more recent experience of how public debt theorizing is affected by changes in the economic environment and in the questions asked to the economics profession. Since the beginning of the decade, it was considered that important developments in industrialized economies such as the slowdown in productivity and rising rates in unemployment and inflation could not be explained within the context of established macroeconomics. Economists found themselves confronting new issues, and thought a wide theoretical reassessment was called for. This task was to be encouraged by developments internal to macroeconomics since the late 1950s. At the centre of those advances were the intertemporal models some of which pioneering expositions were made in the field of public debt (Section IV).

If it is true that a wealth of approaches in macroeconomics responded to the challenge of the early 1970s, it is also true that public debt literature blossomed in the 1970s and well into the 1980s. There were lively controversies within standard aggregate macro models (Section V) but most contributions followed the route of intertemporal-intergenerational models. Some common elements shared with other areas of macroeconomics became the foundations of a new research program such as equilibrium instead of disequilibrium frameworks, rationality instead of fiscal or monetary illusion, and the explicit account of intertemporal budget

constraints which restrict the behaviour of economic agents. The main beneficiary of this research was the debt neutrality proposition, an old subject of contention in public debt theorizing (Section VI).

Not only theoretical investigators but also policymakers shared in the burgeoning public debt literature of the 1970s and 1980s. The reappearance of high debt to GDP ratios in most OECD economies and the outbreak of foreign debt problems encouraged theoretical research and the design of policy options. Topics neglected for decades were rediscovered. The sustainability issue is only one example: a major concern by 1945, became obsolete by the mid-1950s and revived in the early 1980s. Interestingly, a great deal of recent literature on public debt and on sovereign debt owes a lot to fresh reflections of economists on the interwar experience.

Having mentioned these characteristics, how do we organize our discussion of public debt theories? We have tried to identify research programs in the sense that there is a set of assumptions which guide the research process, and also common methods to define and solve problems. We have written six sections as follows: In Section I the central issues are the Keynes-Lerner approach to budgetary policies, and public debt discussions in the context of the neoclassical synthesis. Section II reviews the revival of orthodox budgetary theories in the late 1950s and discusses the formation of debt theories according to which institutions and political structures should be incorporated in public debt analysis. Moving to the flourishing growth theory of the 1960s in Section III, we start by discussing how public debt affects standard results in models à la Solow, and dedicate a good deal of attention to the question of whether there is a role for public debt in optimal growth models.

After leaving the infinite-horizon models of Section III we explore the life-cycle models in Section IV for which life is very much finite. We examine the 1960s' contributions of life-cycle theorists to the burden-of-the-debt controversy, before concentrating on overlapping generations models (OLG). We follow pioneering applications of OLG to public debt, as

well as more recent contributions, motivated by the question of how public debt affects capital accumulation. In Section V our review is absorbed by the vivid controversy of the 1970s about the long-run effects of fiscal policies. The legacy of this controversy is that questions about the effects of fiscal policies should be accompanied by an explicit statement of the run and the method of financing. Towards the end of the section we examine how traditional crowding out descriptions are modified by the distinction between anticipated and unanticipated fiscal policies in the presence of rational expectations.

The debt neutrality proposition is the core of our discussion in Section VI. The first half of the section deals with central topics of controversy which followed the Barro (1974) statement of debt neutrality. The second half of the section is dedicated to a departure from debt neutrality which led to the design of the tax smoothing theory of deficits. Although tax smoothing has been mentioned in the public debt literature since the 1920s, its modern development is associated with the departure from the Barro model in the presence of distortionary taxation. Our emphasis on the subject of tax smoothing is due to the fact that it is a central reference in our econometric work in Part III.

This survey aims to place the public debt controversy of the last six decades into perspective. That purpose seems to be enough for a survey. In our case, however, the survey also provides the frameworks that guide our empirical work in Part III and our historical scrutiny in Part IV. At the end of every individual section we indicate in what ways the contents reviewed are applied in the rest of the thesis.

SECTION I

From the Keynesians to the neoclassical synthesis.

Introduction

In this section we deal with public debt controversies between the mid-1930s and the late 1950s, a period exceptionally affected by the great depression of the 1930s and World War II. These extraordinary events and the prosperity of the post-war period had a crucial influence on the subjects which attracted the attention of economists. The body of research reviewed in this section was also largely influenced by the so-called Keynesian program of academic work which dominated between the 1940s and the early 1970s.

In subsection A we start by following Keynes's message on budgetary policies and discuss to what extent his views affected actual policies. We refer to a set of statistics related to the U.S. experience during the great depression and World War II since it was the main case study of contemporary analysts. It is shown that fiscal policy was not a determined expansionary device during the depression, and that a resolute expansion of government expenditures did not take place until the war years. We also draw on the U.S. experience to show how policymakers' assimilation of fiscal activism was a slow process not completed until the late 1930s.

Functional finance is our topic of discussion in subsection B. If Keynes rejected the Treasury view in the late 1920s and advocated a countercyclical role for public debt in the late 1930s, Lerner expounded the "functional finance" criterion in the early 1940s as a sort of 'steering wheel' by which to moderate the fluctuations of the business cycle. The Keynes-Lerner view discarded the principle of continuously balanced budgets and underpinned the notion of

cyclically balanced budgets. In subsection C we review the public debt debate in the aftermath of the war, in which the disagreement was not about whether the budget should be permanently balanced but about the role of fiscal authorities: in contrast to the discretionary role suggested in Keynesian spheres, new proposals were made in which rules rather than discretion should govern fiscal policies.

The prosperity of the post-war years saw the rebirth of full employment macroeconomic analysis, and this was the framework for further developments in public debt theory. Specifically, researchers sought to determine the conditions under which public debt changes could have real effects on the economy. In subsection D we illustrate these advances with reference to some outstanding contributions made in the context of the "neoclassical synthesis"; given its importance, these contributions were particular targets of attack from debt neutrality advocates in the 1970s. We also review early discussions of portfolio theorists, and finish with a brief comment on the challenge posed by the Fleming-Mundell model to the neoclassical synthesis regarding policy recommendations.

In the last subsection we make explicit the connections of this section with other sections of this work, and examine the possible relevance of the topics treated in the section for our historical narrative in Part IV.

A. The background. Keynesian thought and Keynesian policies.

1. Keynes's views on budgetary policies and their influence on actual policies.

Since the publication of the General Theory in 1936, Keynesian economics has emphasized the capability of demand management policies to maintain full employment, and in particular, the use of fiscal policy to curb unemployment and control inflation. Putting aside any difference between "Keynesian economics and the economics of Keynes", it can be shown that the original exposition of Keynes's ideas in the midst of the great depression and

its translation into actual policies was not a straightforward process. We try to illustrate this point with particular reference to the U.S. experience. The arrival of Keynes's ideas in the United States and their further development by Keynesian followers are of central importance for our historical perspective of public debt theories.

Recent research has emphasized the gradual evolution of Keynes'circumspect approach to budget deficits (Dimsdale, 1987, 1990). Our reference to Keynes's thinking on budgetary policy during the interwar period is necessarily limited and selective. In 1929 Keynes questioned the validity of the Treasury view whose meaning was explained by the Chancellor of the Exchequer, Winston Churchill: "It is the orthodox Treasury dogma, steadfastly held ... that whatever might be the political or social advantages, very little additional employment and no permanent additional employment can, in fact, and as a general rule, be created by state borrowing and state expenditure".[1] In the pamphlet Can Lloyd George do it ? Keynes and Hubert Henderson referred to the Treasury View as follows: "In relation to the actual facts of today, this argument is, we believe, without foundation ... If (the argument) is valid at all, it must apply equally to ... any new business enterprise entailing capital expenditure ...".[2]

The announcement and implementation of the New Deal gave Keynes the opportunity of a more direct involvement in U.S. recovery controversies. The New Deal was mainly a program of institutional reforms such as The National Recovery Act (NRA).
In a letter to President Roosevelt, Keynes mentioned that the U.S. administration was engaged on the double task of recovery and reform, and that the NRA was "essentially reform"; rather than reform, recovery required "quick results". Recovery meant "to increase the national output and put more men to work". In the depressed conditions of the time, only the public authority could "create additional current incomes through the expenditure of borrowed or printed money". As for the relative importance of fiscal and monetary measures given the deep recession of the U.S. economy, Keynes concluded: "I put in the forefront ... a large volume of loan expenditure under government auspices ...I put in the second place the

maintenance of cheap and abundant credit, in particular the reduction of the long-term rate of interest".[3]

In the General Theory, Keynes highlighted the role of public investment as "the only means of securing an approximation to full employment" since it was unlikely that the mere influence of monetary policy on the interest rate could deliver an optimum rate of investment.[4] Keynes became sceptical of the capacity of interest rate changes to neutralize wide fluctuations in the marginal efficiency of capital, and thus to avert oscillations in investment.[5] Further, it was part of the social philosophy envisaged by the General Theory that cooperation rather than exclusion would guide public debt and private investment in the pursuit of full employment.[6]

Towards the end of the decade, Keynes explicitly allocated fiscal policy to stabilization purposes over the business cycle: "Just as it was advisable for the government to incur debt during the slump, so for the same reasons it is now advisable that they should incline to the opposite policy. Aggregate demand is increased by loan expenditure and decreased when loans are discharged out of taxation".[7] This statement prefigured what Abba Lerner would call "functional finance" in the early 1940s as we will see below.

Although it is possible to follow the evolution of Keynes's ideas on budgetary policies since the 1920s, actual budgetary policies of Keynesian inspiration in Britain or the United States did not take place until the 1940s. Britain achieved a record of continuous annual budget surpluses between 1922 and 1937 with the exception of a minor deficit in 1932 (Alesina, 1988). The Treasury view of the 1920s sustained its official predominance over the depression years 1930-32 when the British economy grew at an annual average rate of -2.0%; it was not until the early years of World War II that the countercyclical role of budget policies was officially accepted (Pollard, 1976). Before turning to the U.S. experience it may be recalled that the deflationary budgetary policies applied in Britain during the 1930s

contrasted with the more discretionary budgetary approaches followed in other major European countries (Alesina, 1988. Eichengreen, 1992).

The inertia of classical principles of public finance predominated in the United States over the 1930s. Some statistical facts about the great depression reveal the absence of an explicit countercyclical fiscal policy. As seen in Table 1, the recovery of GNP was not complete until 1939. At this date the rate of unemployment was 17% after a peak of 25% in 1933. Additionally, a 25% fall in consumer prices between 1929 and 1933 could not be completely eliminated until the World War II period.

What do the statistics reveal about monetary and fiscal policies? Columns (1) and (4) suggest that for the period 1929-1933 the 30% decline in real GNP was accompanied by a reduction of 25% in the average stock of money. Further, column (5) indicates that the government budget was practically in equilibrium during the most critical period of falling real GNP and increasing unemployment rates. The recovery started with the revival of the money stock and a fiscal expansion materialized in an average budget deficit over 5% of GNP in the period 1932-1936. It was during these years that the stock of nominal debt doubled (Column 6), and so did the debt-GNP ratio (Column 7), given the still incipient recovery of economic activity. In the second half of the decade the average annual deficit was not higher than 3% of GNP, and the stock of public debt accumulated at a lower pace.

Supplementary information about the relative importance of fiscal policy in the 1930s is provided by the full-employment surplus (Brown, 1956) in columns (8)-(10). It is shown that with only two exceptions, 1931 and 1937, Federal and State-Local governments applied conflicting budgetary policies. The expansionary action of the Federal government started in 1931 -the third year of recession- and its major importance as a proportion of GNP materialized in the period 1934-1936; however, it was largely offset by State-Local contraction.[8] Altogether, the figures in columns (5) to (10) lead to the conclusion that fiscal

TABLE 1
U.S. ECONOMIC STATISTICS
FROM THE GREAT DEPRESSION TO THE END OF WORLD WAR II

YEAR	(1) GNP (1958) $billion	(2) CPI 1967=100	(3) UNEMPLOYMENT RATE %	(4) M1 $billion Averages	(5) DEFICIT/GNP %	(6) GROSS DEBT $billion	(7) DEBT/GNP x100	FULL EMPL. SURPLUS/GNPx100 (8) FEDERAL	(9) STATE-LOCAL	(10) TOTAL
1928	190.9	51.3	4.2	26.4	-0.8					
1929	203.6	51.3	3.2	26.6	-0.9	17	16	-0.6	-1.3	-0.8
1930	183.5	50.0	8.7	25.8	-0.1	16	18	0.1	-1.5	-1.4
1931	169.3	45.6	15.9	24.1	1.7	17	22	-2	-1.1	-3.1
1932	144.2	40.9	23.6	21.1	3.6	20	33	-1	0.1	-0.9
1933	141.5	38.8	24.9	20	5.7	23	40	-0.3	1.3	1
1934	154.3	40.1	21.7	21.9	6.0	27	41	-1.6	1.7	0.1
1935	169.5	41.1	20.1	25.9	6.8	29	39	-1.6	1.5	-0.1
1936	193	41.5	16.9	29.6	4.0	34	41	-2.1	1	-1.1
1937	203.2	43.0	14.3	31.0	1.1	36	40	0.7	1.1	1.8
1938	192.9	42.2	19.0	30.5	1.8	37	44	-0.6	1.2	0.6
1939	209.4	41.6	17.2	34.1	2.9	41	45	-0.8	0.7	-0.1
1940	227.2	42.0	14.6	40.0	2.9	43	43			
1941	263.7	44.1	9.9	46.5	9.2	48	39			
1942	297.8	48.8	4.7	55.4	6.5	68	43			
1943	337.1	51.8	1.9	72.2	24.9	128	66			
1944	361.3	52.7	1.2	85.3	23.7	185	87			
1945	355.2	53.9	1.9	99.2	16.8	235	110			
1946	312.6	58.5	3.9	106.5	-10.0	242	114			
1950	355.3	72.1	5.3	114.1	-1.0	219	76			
1955	438.0	80.2	4.4	134.4	0	227	56			

SOURCES.
Columns (1), (2), (3), (4), U.S. Department of Commerce (1975)
Column (5), Barro (1986)
Columns (6), (7), Brown (1990)
Columns (8), (9), (10), Brown (1956)

policy was not intended as a strong recovery device and that as a proportion of the size of the economy it became weaker through the decade.

In sharp contrast with the 1930s, the World War II period was the scenario for a major experiment in so called Keynesian- orientated policies. So as to meet the requirements of war production, huge Federal government deficits were required. In fact, the average ratio of budget deficits to GNP rose from 5% in the first three years of the war to 22% in the last three years and the ratio of public debt to GNP rose from 45% in 1939 to 110% in 1945. In the meantime, the real GNP doubled and the rate of unemployment dropped from 15% to 2% over the war period.

Although the 1930s were not characterized by resolute countercyclical policies, new ways of thinking about budgetary policies came forth since the beginning of the decade. These developments were channeled by the defenders of pump-priming policies. Crude versions of pump-priming established that a once-and-for-all increase in government expenditures would induce a chain of changes in consumption and investment bringing about full employment (Sweezy, 1972). More elaborate arguments were worked out by the so-called "Keynesian pioneers" at the heart of government agencies (Galbraith, 1975). It is to these developments that we now turn.

2. The role of Keynesian pioneers.

Keynesian pioneers discarded the automatic full recovery and inflation carried out by a one-shot positive contribution of government expenditures; rather, they demanded a sequence of expenditures in order to stimulate the production of durable goods (Jones, 1978). It was shown that significant new fixed investment would not be guaranteed until the expansion in consumer demand had removed much of the idle productive capacity created by the slump.

A specific result of these developments was the Currie-Krost statement according to which equal increments in government expenditures and in tax revenues would produce some positive effect on income and employment. This was the general basis for the unitary balanced-budget multiplier theorem derived separately by William Salant and Paul Samuelson in the early 1940s, and introduced in the academic literature -Econometrica, 1945- by Haavelmo (Samuelson, 1979). Further, it was stated that an active fiscal policy could require a money financed deficit as the only way of restoring demand and the monetary liabilities of the financial system destroyed in the depression -25% during 1929-33 in the United States as seen above (Currie, 1978). Keynesians advocated expansionary monetary and fiscal policies but confessed that they were not "believers in the sole efficacy of monetary measures" (Sweezy, 1972, p.117).[9]

Since from 1933 to 1939 the nominal GNP and M_1 grew at an annual rate of 9% with a timid response of the CPI, and this path of recovery was unable to reduce the rate of unemployment to the levels of the 1920s, Keynesian pioneers envisaged the role of deficits as a meaningful countercyclical force. Taken as a whole, monetary and fiscal policies would play a complementary role in terms of stabilization and growth in a mixed economy (Jones, 1978). By the close of the 1930s Keynesian pioneers were convinced that the "fiscal policy-employment battle" would be won| The Works Financing Bill of 1939 revealed for the first time an explicit acceptance of compensatory fiscal actions (Currie, 1972).

Keynesian pioneers played their influential role in the admission of the new ideas at decision levels -the White House and other official agencies.[10] In the meantime, a host of contributions developed the theoretical basis. Pathbreaking work by Hansen (1941) and Samuelson (1939) characterized the Keynesian research in its American version. This context was favourable to the emergence of new controversies on the role of budgetary policies. We concentrate our attention on the "functional finance" hypothesis.

B. Functional Finance and Public Debt

Since the beginning of hostilities, full employment was the common goal envisaged by economists for the period after World War II. Two different views dominated the academic controversy. Hansen formulated his "secular stagnation" hypothesis as an interpretation of the downturn of the U.S. economy in the 1930s. It was believed that due to historical factors such as an exhaustion of technological opportunities for investment the economy would face a prospect of indefinite stagnation. A permanent policy of budget deficits would then be required to keep the economy close to the full employment goal. The alternative view was more akin to Keynes's fiscal circumspection since budgetary policies were assigned to deal with cyclical fluctuations, generating surpluses during booms and deficits during slumps.

Hansen's stagnation hypothesis did not gain the sympathy of the private sector. Permanent deficit spending was interpreted as a systematic undermining of the private enterprise system. The argument was simple: a permanent deficit would imply a high ratio of debt to GNP, and consequently higher income taxes to finance the interests on debt. These higher taxes would discourage alternatives of private investment with a negative impact on aggregate demand (Stein, 1969). A chain of higher bond-financed deficits and income taxes would provoke the final collapse of the private enterprise economy (Lerner, 1943). It would mean a complete crowding-out working through the fiscal system.

The alternative view reached a broad approval. New controversies emerged about the precise instruments of policy, the concept of full employment goal and the meaning of a balanced-budget rule in the postwar era. The striking point was the treatment of taxation as a stabilization instrument. The possibility of tax reductions extended the scope of expansionary fiscal actions and gained a greater support in the private sector (Musgrave, 1987). An outstanding expression of these views was the principle of "functional finance" which we review below.

1. Laws of Functional Finance.

The starting point was the characterization of monetary economies as economies in disequilibrium.[11] The basic criterion for government action was that in "any society in which money is used as an important element in the economic mechanism", instruments available for government policy -taxes, spending, lending and borrowing- should be used according to their results on the economy. This principle of judging government measures according to their effects on the economic mechanism was called "functional finance" (Lerner, 1943).

According to "functional finance", a government has two financial responsibilities in a monetary disequilibrium economy: full employment of resources with price stability and stability in the financial markets. In the former case the instrument is the budgetary policy using taxes and government expenditure to regulate the aggregate spending according to the full employment target. This is the first law of "functional finance". In the latter case the instrument is the open-market-operations, OMO, through which private financial portfolios (money and securities) could be regulated. By using OMO, authorities should borrow money only if it was desirable for the private sector to have less money and more public debt; this would be the case if a "too" low interest rate was inducing a private investment rate in excess of full employment. On the contrary, public debt repayments should follow only if it was desirable to increase the proportion of money in private portfolios in order to stimulate a higher investment through the reduction of interest rates. This is the second law of "functional finance".

"Functional finance" was presented as a framework, a general guide for government financial policies. There was no discrimination between policies contrasting the relative efficacy of monetary and fiscal actions. Government policies were considered as a whole, and their efficacy in terms of the net result of the instruments involved (Bator, 1987). The orthodox principle of "sound finance" and the imperative rule of balanced budgets found no room in this setting. Less than a decade after The General Theory, Lerner's principle was proposed as a "kind of balancing wheel to dampen the amplitude of business cycles fluctuations"

(Scitovsky, 1984). But however its aspiration of becoming a general guide for policy makers, "functional finance" was received in academic grounds more as an intellectual exercise rather than as a prescription for practical purposes.[12]

2. The sustainability issue.

When "functional finance" came in, U.S. observers were concerned with the prospect of a large and long-term public debt at the end of the war. Large debts were opposed because of the possibility of government default and its consequent repudiation. Long-term debts were considered a risk for bond-holders because of the potential losses of capital associated with inflationary processes.[13] Capital levy was an issue of intensive discussion in the interwar period and particularly during the Second World War. It was feared that in spite of some failed capital levies after the First War the action could be repeated by the same countries and extended to others highly indebted protagonists of the Second War (Rostas, 1940).[14]

The fears of an ever growing debt were combatted by early Keynesians. Domar (1944) considered the case of a policy of permanent deficit financing when interest payments are raised by taxation and discussed the Hansen's hypothesis that the debt burden is a problem of expanding national income. It is shown that when national income increases at a constant rate, the ratio of debt to national income is given by the ratio of the proportion of national income borrowed by the government (σ) and the rate of growth of national income (n): $D/Y = \sigma/n$. The burden of the debt is given by $[\sigma/n]r$, where r is the interest rate. Putting it the simplest way, given σ and r, the debt burden is a problem of rising national income as stressed by Hansen. Also, this simple relationship establishes that if the rate of interest exceeds the rate of economic growth any primary fiscal deficit will lead to an explosive debt burden. The only way out perceived by Domar is an increase in taxation.[15]

"Functional finance" offered a different vision of the debt problem. First, it stressed that the absolute size of internal public debt "does not matter at all" and that interest payments "do

not constitute any burden upon society as a whole" (Lerner, 1943, p.47). However large the interest payments on the debt were, they could be met by new borrowing or by issuing money, and not necessarily by taxation. But even in the case in which interest payments were financed by current taxes, they would not constitute a social loss but merely a transfer from taxpayers to bondholders.

Second, it was postulated that public debt is part of private wealth. In particular, the Keynesian saving function was transformed to include private wealth. The consideration of wealth effects on private savings offered a further explanation of the way in which bond and money financed deficits could make up a gap in total spending. Firstly, there would be a flow effect on spending brought about by the budget deficit. Secondly, there would also be long-run impacts on private spending due to wealth effects derived from changes in the stocks of public bonds and outside money. As private spending increases there is less need for deficit financing, and a higher collection of taxes guarantees a tendency toward budget equilibrium. Therefore, in the long run the budget would be balanced and investment would coincide with intended private saving at full employment.

Two main conclusions can be derived from this discussion of "functional finance". First, there is a self-equilibrating mechanism in the dynamics of internal public debt. Accordingly, the fears of a never-ending internal public indebtedness expressed in the early 1940s appeared to be unjustified. Second, "functional finance" anticipated the wealth effects discussions of the early 1970s. Although there is not an explicit formulation of a macroeconomic model à la Blinder and Solow (1974) -with its dynamic and stability characteristics (Section V below)-, there is a clear distinction between short-run and long-run effects of budget deficits. An important difference, however, is that in Lerner's exposition changes in wealth do not affect the money market equilibrium.

Finally, a point which is not clear in Lerner's discussion of short-run versus long-run effects of budgetary policies is the impact of debt accumulation on capital accumulation. It is

apparent that while private savings are involved in the financing of budget deficits, Lerner does not mention any effects of debt accumulation on the long-run capital stock (Tobin and Buiter, 1979). This would be a central question in both the neoclassical money-capital-bonds growth models and the life-cycle models of the 1960s. (Section III and Section IV below).

By the end of the war, Lerner restated the "functional finance" hypothesis in a broader framework for a capitalist economy with government intervention in The Economics of Control (1944). However, it was not a dominant paradigm in the aftermath of the war, since the role of budgetary policies became the subject of new views and policy programs as we will see next.

C. Rules versus discretion. Variations at the end of the war.

Fears of an explosive government indebtedness in the early 1940s were replaced by proposals of a new framework for monetary and fiscal policies after World War II. The sequence of budget deficits in the United States was followed by a period of surpluses and budget balances. The ratio of public debt to GNP fell from the peack of 114.0% in 1946 to 76.0% in 1950 (Table 1). This striking reduction continued along the peacetime period, and ten years after the end of the war the ratio was 56.0%. According to recent research a similar experience of rapid reduction of the debt burden occurred after World War I and other conflicts in the U.S. history (Poterba and Summers, 1987).

The academic discussion of the role of fiscal policy was animated by the appearance of new views in conflict with both the classical principles of public debt (continuously balanced budget), and the "functional finance" laws. One of these views emphasized the relationship between fiscal policy and stability as a framework for the private sector. The proposal ruled out discretionary changes of tax rates or government expenditures. Tax structures should be unaffected by alterations in the state of the economy, and therefore, fiscal revenues would adjust automatically creating deficits during recessions and surpluses during booms. Further,

it was stressed that tax rates should generate surpluses at high levels of employment with the intention of reducing the stock of public debt.[16]

A more drastic proposal was presented by Friedman (1948). The aim was a structural reform of fiscal and monetary policies so as to achieve the long-run objectives of political freedom, economic efficiency and economic equality. Discretionary actions on either fiscal or monetary policies are ruled out. There is no room for OMO, and public debt issues should be confined to extreme circumstances such as a war.[17] Both proposals emphasized the importance of rules against discretion in fiscal policy, and Friedman extended the same regime to monetary policy. Government is seen as having a path of projected expenditures and a tax structure fixed at a high employment level. Given these elements, tax revenues would provide an automatic stabilizing effect in response to cyclical fluctuations.[18]

In conclusion, by the end of the 1940s there was a consensus against the classical rule which prescribed a continuously balanced budget. The consensus embraced the idea of cyclically balanced budgets according to which budget deficits in recessions would be matched by budget surpluses in times of prosperity. Yet, there existed different approaches to cyclically balanced budgets. One tendency -Keynesians or Lernerians- supported the discretionary role of authorities to act on spending and taxation according to deflationary or inflationary conditions in the economy; in this context stabilization policies were required to control the sources of instability in the private sector. A different tendency advocated a cyclically balanced budget by automatic adjustments of the budget to changes in the state of the economy; in this view fiscal discretion was seen as a source of instability. These conflicting lines of thinking of the early postwar years would reappear in future controversies about the role of economic policies in the 1970s and 1980s.

The performance of the U.S. economy after World War II and the extraordinary reconstruction of the European economies after the Marshall Plan left the conviction that the capitalist system had surmounted its most profound crisis. This atmosphere was favourable to

the issue of new ways of thinking about economic policy. Economists converged to the idea that with an adequate stabilization policy capitalists economies should perform near full employment where the classical welfare properties would work again. This convergence was known as the neoclassical synthesis and new contributions to the theory of public debt were made in this framework. We next illustrate those contributions with reference to some specific models.

D. Public debt in Post-war macroeconomic models. 1950-1960.

1. The Neoclassical synthesis.

With the emergence of the neoclassical synthesis the opposition between Keynesians and classicals seemed to have come to an end. The theoretical reconciliation was summarized by a leading economist in the following passage:

> "In recent years 90% of American economists have stopped being 'Keynesian economists' or 'anti-Keynesian economists'. Instead they have worked toward a synthesis of whatever is valuable in older economics and in modern theories of income determination. The result might be called neo-classical economics and is accepted in its broad outlines by all but about 5% of extreme left wing and right wing writers" (Samuelson, 1955).

The neoclassical synthesis defined the ground rules of a countercyclical fiscal policy. A shortfall of investment demand due to the presence of "animal spirits" would mean a wastage of resources, a non-optimal condition according to neoclassical welfare principles. The point stressed by the consensus was that optimal expansions of public and private sectors determined according to the rationality criterion would not prosper automatically. This was the challenge for fiscal policy. An expansion of the private sector would demand a tax reduction, and an expansion of the public sector would require the corresponding increase in government expenditures. The general guidance for policy-makers should be the equalization of the social marginal rates of return on both public and private sectors (Samuelson, 1951).

The controversy about the real effects of changes in the stock of public debt gained a central position in influential literature of the 1950s and 1960s. Specific work by Metzler (1951), Mundell (1960), and Patinkin (1965) characterized the neoclassical-Keynesian consensus about the effects of government intervention through budget deficit financing and through OMO. Other authors such as Tobin (1952, 1961, 1963) extended the Keynesian analysis of public debt by applying a portfolio approach.

a. Metzler

Metzler (1951) distinguished two fundamentally different channels of monetary expansion: deficit financing through a direct change of money without affecting private holdings of other assets, and OMO.[19] The pivot of Metzler's argument is taken up from a prominent contribution of Pigou (1943): the wealth-saving relationship. A money-financed deficit would generate classical results: after an increase in the money supply, the nominal values of wages and prices would change in the same proportion as the money supply leaving the equilibrium interest rate unaltered. Quite different results would emerge from OMO, since banking authorities could alter the equilibrium interest rate because of their power to affect the quantity and value of privately held securities. A further implication of Metzler's analysis was that increases in the stock of public debt would adversely affect growth through the wealth-saving relationship. This result would be a focus of controversy during the 1950s and 1960s.

In conclusion, a monetary expansion through OMO would be non- neutral in the sense of bringing about a permanent reduction of the equilibrium interest rate. This result would be subject to a strong rebutal by Barro (1974) in the discussion of his debt neutrality proposition. In fact, if the marginal net wealth effects of government bonds were negligible, Metzler's results would be invalid (Section VI below).

b. Mundell

Mundell's (1960) contribution was motivated by the polemic according to which because of the wealth-saving relationship the existence of public debt would cause adverse effects on saving and growth. The author carries on Metzler's analysis of nonneutrality of OMO. Yet there are strong divergences in their approaches. In contrast with Metzler's framework, changes in the equilibrium interest rate cannot be explained by the existence of wealth saving effects per se. It is shown how with imperfect capital markets changes in public debt through OMO can lower, raise or leave unchanged the equilibrium interest rate depending on the tax system used to finance the interest payments on debt.[20]

Since wealth is the capitalized value of real income streams, an increase in public debt enlarges wealth only as far as the capitalized value of the future interest payments on the new bonds exceeds the capitalized value of the taxes required to finance them. It is shown how in the case of specific tax systems -such as corporation taxes- OMO will not be nonneutral. In this case, changes in public debt will have no effect on real wealth. In conclusion, in a context of capital market imperfections, increases in public debt do not necessarily harm saving and growth, the outcome depending on the tax systems in use.[21]

In a different contribution, Mundell (1971) assumes that part of the private sector has a higher discount rate than the government, and thus bond-financed tax cuts involve a net wealth effect. In this case the government becomes a financial intermediary through the issue of public debt by transferring resources from private agents with easy access to credit markets, to agents with restricted access to those markets. This argument would be one of the focus of attack a decade later by the defenders of the debt neutrality proposition, as we will see in Section VI below.

c. Patinkin.

In Patinkin (1965) the critical question for the historical perspective of public debt controversies is to what extent private agents discount their future tax liabilities derived from the issue of public debt. For if those liabilities and the expected interest on public bonds are discounted in the same way, government debt does not constitute net wealth. Patinkin discusses alternative ways of introducing public bonds in a neoclassical model and proposes a synthesis in which the proportion of public bonds to be treated as net wealth can vary between zero and one. When this proportion (α) equals one, agents ignore future tax liabilities and the whole real amount of bonds is treated as net wealth. Alternatively, when _ is zero agents perfectly discount their future tax liabilities: the acquisition of public bonds is fully offset by discounted future tax liabilities. The markets and equilibrium conditions are as follows:

Market	Equilibrium conditions	
Labor services	$Q[W/P, K_O] = R[W/P]$	(1)
Commodities	$F[Y_O, r, \alpha V_O/rP + M_O/P] = Y_O$	(2)
Bonds	$B[Y_O, 1/r, \alpha V_O/rP + M_O/P] = \alpha V_O/rP$	(3)
Money	$L[Y_O, r, \alpha V_O/rP + M_O/P] = M_O/P$	(4)

where $\alpha V_O/rP$ is the real stock of outstanding government debt considered net wealth. This term appears in both sides of the equilibrium condition in the bonds market (equation 3). The expresion $[\alpha V_O/rP + M_O/P]$ in equations (2), (3) and (4) is the real net wealth in money and bonds.

Metzler's and Mundell's neutrality results of a money financed deficit are reproduced in this model only if the outstanding government debt is indexed against changes in the price level. Otherwise the outcome is nonneutral: the equilibrium interest rate falls.[22] Nonneutrality follows, too, as a result of OMO. The simplest explanation is that a repurchase of bonds is equivalent to a reduction in the real quantity of government debt. While in standard Keynesian analysis this portfolio recomposition against public debt leads to a lower

equilibrium interest rate, in Patinkin's model nonneutrality effects arise to the extent to agents imperfectly discount future tax liabilities.

Which are the main legacies of these contributions -Metzler, Mundell, Patinkin- for future public debt controversies? The methodology applied in these works has to be understood in the common grounds of the Neoclassical synthesis. Metzler's essay was written at a time when full employment was seen as a characteristic of the industrialized world and the rebirth of classical ideas was a natural development. Mundell's article served to remove fears about the negative impacts of accumulated public debt on economic growth in a moment in which growth occupied an important position in the hierarchy of goals of government policies. Patinkin's second edition of Money, Interest and Prices coincided with successful policies of high employment and low inflation in industrialized economies.

The three works are general equilibrium models with full employment. The analysis concentrates on the temporary disequilibria and dynamic process of tâtonnement which follow alternative monetary policies until a new equilibrium solution is achieved. Metzler's and Mundell's differentiation between alternative monetary policies is an anticipation of the so-called pure fiscal analysis of the 1970s. More generally, the point of how money is created and its real implications had an important echo in the monetarist controversy of the 1970s.

Finally, Patinkin and Mundell state that monetary policies are neutral in a context of perfect capital markets where all income streams -including tax changes- are discounted. How perfect the markets are or how imperfect the discounting of future tax liabilities associated with public debt is, appears to be an empirical matter. The assumption of imperfect discounting is used by Patinkin as a crucial but "reasonable" assumption. This reasonableness would be directly criticized by Barro (1974) who found that assumption with no a priori foundation. This assessment followed Barro's conclusion that there was not theoretical case for considering government debt, at the margin, as a component of net wealth (Section VI below).

2. The portfolio approach

The portfolio approach or Yale School of economic policy shares important theoretical features with the standard presentation of the neoclassical synthesis. The rationality criterion and the choice-theoretic methodology are common grounds of analysis. But reliance on rationality and individual preferences do not transform into a belief in the efficient functioning of markets. In both two lines of thinking there is room for stabilization policies.

Some points are particularly stressed by portfolio analysts. Money, its properties and functions, and the characteristics of other assets which promise to pay money in future are the focus of attention. Why do people hold money and other stores of value like bonds of public debt? Portfolio theory considered that there was not a conclusive answer to these questions and challenges. Even in the early 1980s one of its leading inspirers emphasized "the difficulty of explaining within the basic paradigms of economic theory why paper that makes no intrinsic contribution to utility or technology is held at all and has positive value in exchange for goods and services" (Tobin, 1982, p.173) This enduring challenge has called the attention of portfolio writers to the public good nature of money, and to the fact that monetary contracts constitute institutional events and structures.

Standard Keynesian models and specially the IS-LM model have been a permanent matter of criticism in portfolio writings. A central issue of debate has been the aggregation procedure according to which all nonmonetary assets are replaced by only one asset.[23] Also the Cambridge tradition of monetary theory has been subjected to criticism. In this framework capital investment is considered the alternative to money holdings. Government debt, particularly short-term bonds are treated as close substitutes for money (Chick, 1977).

Between the extreme Keynesian and Cambridge substitutability hypotheses, Tobin proposed a synthesis in which money, government debt, and capital are imperfect substitutes (Tobin,

1961, 1969). Relative substitutabilities and relative supplies would define the structure of rates of return. In this context, an increase in the supply of one asset would raise its own return relative to other assets but less in relation to closer substitutes. Additionally, Tobin synthesis provided a broader perspective for stabilization policies in the sense that not only by changing the quantity of money but the supply of any type of public debt the government could affect the rate of investment.

Within this extended model the portfolio approach examines the role of public debt in stabilization policies. It is shown how by altering the relative supplies of money and government debt that compete with equities on private capital, authorities could seek a determined level of the supply price of capital which is compatible with the final objective of stabilization.

The institutional fact is that governments possess exclusive prerogatives over their own liabilities which cannot be reproduced by the private sector. For instance, government currency issues are declared to be legal tender, and government securities are seen as future contracts by which governments pay their own money. Governments earn seigniorage from the issue of these liabilities, and additions to the stocks of money and public debt are perceived as private wealth. However, it is also recognized that public debt issues in the present create a burden on future government budgets, and the increased taxes required to finance the debt service would reduce private wealth held in other assets. Therefore, an increase in public debt does not represent an equal increase in private wealth (Tobin and Buiter, 1980). Interestingly, the emphasis is placed on the contractionary effects of the higher taxation required to finance the debt service, rather than on the discounting of future tax liabilities.[24]

Further developments of the portfolio approach which are relevant for our historical review are presented in Section V, where the discussion mainly refers to the Keynesian responses to

the monetarist challenge of the 1970s. For the moment we go back to the neoclassical synthesis, and in particular to its policy recommendations. We show how those prescriptions came under attack from inside the neoclassical circles, and how different policy views led to different implications in terms of public debt accumulation. Our specific reference is the Fleming-Mundell model.

3. The Fleming-Mundell model.

At its height in the mid-1950s neoclassical theorists stated what they believed was the appropriate policy mix to enhance growth and avoid inflation. The recipe combined a growth-inducing credit policy with an austere budgetary policy. A decade later, Samuelson explained how the neoclassical synthesis had implied the "sanguine hope that a modern society could increase its rate of growth at full employment by coaxing out a deepening of capital through expansionary monetary policy, while using an austere enough fiscal policy to prevent demand-pull inflation. These combined devices could, in effect, lower the share of full employment income going to consumption and yet not jeopardize full employment.[25] How successful was this policy advice? As for the U.S. economy, the presence of chronic balance-of-payments deficits constrained the implementation of any strong growth-inducing monetary policy. It was then felt that macroeconomic policy prescriptions could not ignore the balance of payments.

Fleming (1962) and Mundell (1963) showed how the relative effectiveness of monetary and budgetary policies is affected by the existing exchange rate regime and the degree of capital mobility. More importantly for our purposes, Mundell (1962) explained how monetary and budgetary policies exert differential effects on internal and external balance. Fiscal policy was found to have comparative advantages with respect to domestic demand while monetary policy was found to have comparative advantages regarding the exchange rate and the price level. From the historical perspective of public debt controversies it has to be noted that the policy mix favoured by the neoclassical synthesis implied fiscal austerity and therefore the

tendency for the government to run budget surpluses. On the contrary, Mundell's policy assignment is more prone to increase the stock of public debt; bond-financed tax cuts destined to promote growth would result in higher levels of public debt.

E. Final reflections and links with other sections of this work.

The public debt controversies of the 1930s and 1940s illustrate the process in which events and new ideas struggle against established concepts and practices. The continuously balanced budget was one of the cornerstones of the orthodox exposition of public finance. This conventional wisdom was replaced by the notion of cyclically balanced budgets. The new vision of public debt did not constitute a unique paradigm. Two polar positions can be mentioned. On one side the advocates of authorities under the assumption that the private sector is intrinsically unstable. On the other side the defenders of an intrinsic stability of the private sector standing against discretionary fiscal and monetary policies. This last position sustains that discretionary policies are the major source of economic instability. Both two extreme standpoints would have important repercussions on fiscal and monetary controversies in the 1970s and 1980s.

The neoclassical synthesis opened an avenue for the convergence of a variety of positions, and enjoyed a honeymoon with the prosperous evolution of Western industrialized economies in the 1950s and 1960s. In the camp of public debt analysis, different contributions studied the conditions under which changes in the stock of government bonds would bring about real effects. Using a term of the 1970s the consensus established that pure fiscal policies would be nonneutral. Other theoretical developments which flourished during the apogee of the neoclassical synthesis and which are central to the historical perspective on public debt ideas are dealt with in Section III and Section IV dedicated to economic growth and life-cycle models respectively.

Some central issues discussed in this section will be helpful in our applied work in Parts II and III. The sustainability issue which goes back to Domar (1944) is explicitly applied in Part II. Specifically, we ask whether the Colombian government satisfied its budget constraint along the period 1925-1985. In Part III, where we concentrate our main econometric work, the Keynesian-Lernerian notion of cyclically balanced budgets is one of our guiding paradigms.

Can we find any connection between the topics treated in this section and our narrative of the Colombia's historical experience in Part IV?

We have mentioned how important theoretical developments regarding public debt reflected the economic situation of industrialized economies between the late 1920s and the early 1960s. A similar parallel cannot be made regarding Latin America. For instance, it is not possible to quote examples of Keynes's personal involvement in policy advice to Latin American countries, as we did at the beginning of the section in relation to the United States. However, some interesting contrasts between specific Latin American countries and the United States can be offered regarding the application of fiscal expansionary policies during the 1930s and 1940s.

It has been documented how the largest Latin American countries -Argentina, Brazil, Colombia, Mexico- launched reflationary policies in the early 1930s to overcome the contractionary shock provoked by the great depression. As a result of these policies, real output and real industrial production grew far faster in those countries than in the United States during the 1929-39 period. However, due to the huge budget deficits required for a massive mobilization of resources toward war production, real output and real industrial production expanded far faster in the United States than in the four largest Latin American countries during 1939-1943 (Díaz-Alejandro, 1982,1983,1984).[26]

Some authors have suggested not to confuse the activist policies of specific countries with "Keynesianism-before-Keynes" (presumably before the publication of the General Theory in 1936), since, it is alleged, those were not autonomous policies but reactions forced by unusual events such as social turmoil and wars (Díaz-Alejandro, 1982). In the particular case of Colombia -Part IV, Section II- an explicit policy of recovery was launched by the end of 1931. Central to that policy was the rescue of a nearly bankrupt financial system and the financing of public works. Both objectives were principally achieved by a substantial increase in the internal public debt. This Keynesian-type policy applied to the conditions of Colombia was not far from the advise given to the United States in 1933 by Keynes himself. An unexpected war with a neighbouring country meant a further substantial increase in the internal government debt; although it was not an "autonomous policy", it came to supplement the recovery in 1932-33. Also in the United States the massive movilization of resources of the early 1940s -which deserved the label of Keynesian experiment-, was made possible by the unusual setting of a world war (Musgrave, 1987).

Finally it has to be noted that once recovery was achieved, the resort to budget deficits was suspended and the economy lived through a period of budget surpluses and declining public debt during the second half of the 1930s; this behaviour was also consistent with Keynes's idea of turning to the "opposite policy" once recovery was reached.

SECTION I

NOTES

1. Keynes, J. M. The Collected Writings of John Maynard Keynes (hereafter Collected Writings). Volume XIX, p.809.

2. Keynes, J. M. Collected Writings, Volume IX, p.115. More personal reactions of Keynes to the Treasury view appeared in his article "A cure for unemployment": "I say that the Treasury dogma is fallacious. It is neither possible nor true. It is not supported by the leading economists of the country... Certainly this dogma is not derived from common sense". Volume XIX, p.809.

3. Keynes, J. M. Collected Writings, Volume XXI, p. 289-297.

4. Keynes, J. M. The General Theory of Employment, Interest and Money (hereafter General Theory), p.378

5. Keynes, J. M. General Theory, p.320

6. Keynes, J. M. General Theory, p.378

7. Keynes, J. M. Collected Writings, Volume XXI, p.390

8. It must be noted that the biggest federal government deficits in 1931 and 1936 were originated in extraordinary payments to the veterans of World War I. These compensation programs were enacted over President's vetos (Stein, 1969).

9. The issues of planning and control in a mixed economy received a leading attention without opposing the principle of efficacy of decentralized decision making. The role attached to monetary and fiscal policies should be understood in this context. For example, the "pioneers" supported the policy of monetary ease in 1933 to restore the media of payment destroyed in the depression, but at the same time beared the Banking Act of 1935 whereby legal reserve requirements were created to reduce excessive reserves in the banking system (Currie, 1980)

10. "By Roosevelt's second term, the facts of life had sunk in; the NRA and fireside chats would not themselves restore prosperity; planning rhetoric could not provide the monetary demand industry needed to provide jobs for the quarter of our population who were involuntary unemployed. Budget deficits, far from being an unfortunate concomitant of the Depression, were something deliberately to be contrived if the country was to get moving again. It was Hansen, and his Harvard-trained economists, who gradually converted the President and the Congress to an understanding of these facts of economic life" Samuelson (1979, p.931).

11. In this respect, Lerner can be seen as a precursor of the neo-Keynesian disequilibrium analysis of the 1970s (Bator, 1987).

12. Keynes characterized the "functional finance" argument as "impecable" but difficult to assimilate at that time given the "state of evolution of our ideas" (Colander, 1984). Friedman (1953) appreciated Lerner's contribution as a "brilliant exercise in logic" but rejected it as a prescription for public policy". According to Friedman, Lerner does not explain what insufficient aggregate demand is and how to differentiate a temporary deficiency in process of correction from the beginning of a recession. Additionally there is not any guidance as to

what correctives to apply, how long for and in what proportions. Finally, Friedman criticizes "functional finance" methods as a potential source of instability when authorities wrongly determine the direction and/or magnitudes of policies: "By the time an error is recognized and corrective action taken, the damage may be done, and the corrective action may itself turn into a further error"(p.316). This criticism of "functional finance" was an anticipation of the monetarist position in the 1970s against discretionary policies.

Two decades later an outstanding figure of the neoclassical synthesis revealed the impact of "functional finance" on the profession: "And certainly no economist can be the same after reading Lerner's Functional Finance...How revealing (even if overly simple) is the notion that we tax only to prevent inflation" (Samuelson, 1964, p.177).

13. Keynes (1923) analyzed the inflationary process in France through the income distribution conflict between wealth owners (the French rentiers) and tax payers. Clark (1945) follows the same analytical route by tracing out the origins of inflation in changes in the balance of power between groups in favour of a stable or rising value of money (fixed income classes and creditors) and groups in favour of a falling value of money (debtors and entrepreneurs).

14. A classical statement of the effects of capital levies is the Report of the British Committee on National Debt and Taxation (1927). The Report mentions two elements of a successful levy: a substantial reduction of direct income taxes and an insignificant probability of repetition. The former element reveals efficiency considerations, and the latter the recognition of what in modern economics is known as the time-consistency issue. The levy payer's attitude is found critical for the success of a capital levy. A capital levy would be resented, and only exceptional circumstances could "reconcile the owner of capital wealth to the levy idea" (p.296).

15. So as to prevent negative effects on incentives, Kalecki (1944) suggested a capital tax instead of income taxes.

16. The proposal was launched by a private organization -the Committee for Economic Development- in 1947. Discretionary actions were only accepted in extreme cases of inflation or deflation. This was a point of convergence, though in restricted cases, with the advocates of countercyclical changes in taxes and expenditures. Finally, the proposal called for a flexible monetary policy as a complement of the budgetary policy. This was an important point since at that time monetary policy was confined to sustain a low interest rate on public debt (Stein, 1969, p.220-232)

17. Friedman's proposal considers a progressive tax system -income taxes-, and rates should be set in order to balance the budget at a high employment level, or alternatively, to get the budget deficit required to sustain the secular growth of money supply. The only way to create money would be the financing of the budget deficit.

18. In Friedman's proposal there is a one-for-one relationship between budget deficits (surpluses) and the creation (destruction) of money, and so, under normal circumstances there is no role for bond-financed deficits and public debt management. The necessary complement of Friedman's proposal is a regime of flexible exchange rates.

19. According to Metzler, neither Classicals nor Keynesians could differentiate between channels of monetary expansion, given their polar positions about the determinants of equilibrium interest rates. Metzler's sharp contraposition between classical and Keynesian interest theories has been subject to criticism; examples of this criticism are provided in Patinkin (1965, Chapter XV and Supplementary Note J), and Niehans (1978). In historical perspective the main Metzler's contribution appears to be the position that all that matters for the effects of money on interest rates is the way in which the monetary expansion is produced.

20. In historical perspective this was an important observation to Metzler's analysis but left the theory of monetary policy without a clear-cut position about the real effects of policies (Niehans, 1978).

21. The Mundell (1960) model can be summarized as follows: the economy is in equilibrium when the capital and goods markets are in balance. The equilibrium conditions are

(1) $A = B(m,r)$ Capital markets
(2) $S(r, m, A) = I(r)$ Goods markets

where A is the value of assets and B the demand for assets, S is saving and I investment, m is the money supply and r the interest rate. The real value of assets, A, is given by

(3) $A = D/r + G/r$

where D and G are the real values of dividends and government interest payments. An expansionary OMO combined with a reduction of income taxes appears to be reducing G and A in (3), and then creating an excess demand in (1) and an excess supply in (2). For equilibrium in (1) a lower m or a lower r is required, and for equilibrium in (2) a higher m or a lower r is required. As a result, the equilibrium r falls.
When an expansionary OMO is combined with a reduction of corporate taxes, the reduced value of G is capitalized in D leaving A in (3), (1) and (2) unchanged. But given the higher market value of corporate securities, investment increases and the equilibrium interest rate rises.

22. The price-indexation of public debt implies that the term $\alpha Vo/rP$ is substituted by $\alpha Vo/r$ in equations (2), (3) and (4). In the absence of indexation, a money-financed deficit creates a deflationary gap in the goods market simply because the real value of government bonds declines. This change creates an excess demand for bonds and an excess supply of money in their corresponding markets. As a result the interest rate falls.

23. Consider a Keynesian model with three assets: money, government bonds, and physical capital. In the conventional interpretation there are only two yields: the rate of return on money institutionally fixed at zero, and the rate of interest common to the two other assets. Government debt and capital are treated as perfect substitutes, and the rate of interest equals the marginal efficiency of capital. This is the liquidity preference hypothesis according to which the relevant choice is between money and bonds.

24. Early in his career, Tobin left the following statement:
"How is it possible that society merely by the device of incurring a debt to itself can deceive itself into believing that it is wealthier? Do not the additional taxes which are necessary to carry the interest charges reduce the value of other components of private wealth? There certainly must be effects in this direction" (1952, p.91)

25. Samuelson, P. A. (1963), p.1544

26. While the percentage change of aggregate real output in the United States between 1929 and 1939 was 6.3, the correspondiong figures for Argentina, Brazil, Colombia and Mexico were 16.7, 51.7, 44.6 and 23.0 respectively. Regarding real industrial production, while the relevant figure for the United States was -1.7, the percentages for Argentina, Brazil, Colombia and Mexico were 35.2, 86.2, 132.1, and 52.3 respectively. Things were different during the 1939-43 period. The U.S. aggregate real output increased by 53.3%, the Argentinian by 8.4%, the Brazilian by 9.7%, the Colombian by 4.5% and the Mexican by 25.3%. As for real industrial production the relevant percentage change for the United States was 133.3%, while the relevant figure for Argentina was 18.0, for Brazil 19.1, for Colombia 16.1, and for Mexico 45.9. Diaz-Alejandro (1983, p.8-9).

SECTION II

Public debt: the classical traditions.

Introduction

This section has three objectives. The first is to present the academic challenges faced by the Keynes-Lerner criterion of cyclically balanced budgets during the late 1950s and early 1960s. This confrontation was known as the "burden-of-the- debt" controversy, and followed the publication of Buchanan's Public Principles of Public Debt (1958). The second is to review classical expositions of public debt which were revived during the controversy and have served as a reference for debate in the last two decades. The third is to draw a general picture of what in recent years has been called the political economy of government debt; this new political economy is firmly based on classical contributions.

Buchanan's attack upon the predominant Keynesian-Lernerian thinking on public debt of the 1940s and 1950s, and other representative contributions to the debate are discussed in subsection A. In subsection B we go back to classical British and Italian writings in which the debt neutrality proposition was first expounded and questioned. In subsection C we examine the criticism of the implications of Keynesianism for modern democracies as spearheaded by Buchanan and his associates in the context of the Public Choice School. The existence of a deficit bias in democracies denounced by public-choice theorists is also the subject of recent research in which public debt is seen as a "strategic variable" used to either redistribute income between generations or to influence future governments' policies. In subsection D we offer some final reflections and links with other sections of this work. Finally, the method of quoting "chapter and verse" is applied in this section more frequently than in any other part of the study.

A. Reactions to the Keynesian views on budgetary policies.

The "burden of the national debt" was an issue of intensive debate in the late 1950s and early 1960s. It was a new round of a time-honoured debate whose roots can be found in the classical political economy of the 1800s. The dispute surfaced as a reaction against interpretations of Keynesian and Lernerian writers in the 1940s. A clear-cut statement of the burden of debt which provoked much criticism was left by Lerner (1948):

> "By far the most common concern about the national debt comes from considering it as exactly the same kind of thing as a private debt which one individual owes to others...One of the most effective ways of clearing up this most serious of all semantic confusions is to point out that private debt differs from national debt in being external. That is what makes it burdensome. Because it is interpersonal, the proper analogy is not to national debt but to international debt. A nation owing money to other nations...is impoverished or burdened in the same kind of way as a man who owes money to other men. But this does not hold for national debt which is owed by the nation to citizens of the same nation ... 'We owe it to ourselves'... A variant of the false analogy is the declaration that national debt puts an unfair burden on our children, ... Very few economists need to be reminded that if our children or grandchildren repay some of the national debt these payments will be made to our children or grandchildren and to nobody else. Taking them altogether they will no more be impoverished by making the repayments than they will be enriched by receiving them" (p.255)

The central propositions are threefold: First, there is a well-defined distinction between internal public debt and external public debt. Second, private indebtedness and internal public indebtedness are not analogous. Third, future generations are not affected by the issue of internal public debt.[1] Only the national external indebtedness transfer the burden to future generations. In Lerner's view the risks associated with the national debt appeared to be "wholly imaginary" since the sensible application of "functional finance" in the short run should render a moderate long run size of the national debt.[2] These ideas were not confined to Keynesian-Lernerian circles. Pigou (1947) stated that although "it is true that loans raised from foreigners entail a burden represented in interest and sinking fund on future generations in the borrowing country,... interest and sinking fund on internal loans are merely transfers from one set of people in the country to another set, so that the two sets together -future generations as a whole- are not burdened at all" (p.37-38).

The criticism of the Keynesian-Lernerian views partly emerged from their own grounds.[3] Meade (1958, 1959) observed that Keynesians having succeeded in demonstrating that public debt is selfliquidating (Lerner, 1943) or that the cost of servicing the debt need not be a problem if the rate of income growth is sufficiently high (Domar, 1944), failed in recognizing the adverse economic effects derived from a domestic public debt. The central argument is that a positive deadweight debt -the excess of public debt over public real assets- is a burden on the economy. The elimination of this deadweight debt -through capital levies, inflation or budget surpluses- would encourage savings and restablish incentives to work and invest.

The strongest rejection of the Keynesian view was led by Buchanan (1958), who saw in that view a "new orthodoxy" opposed to the classical principles of public debt. Buchanan concentrated on the individual roles played by bondholders and taxpayers rather than on macroeconomic aggregates. Accordingly, bondholders invest on public debt looking forward to earn a real income in a future period of time; this is seen as a voluntary transaction whereby current consumption is reduced in order to get a higher future consumption. Taxpayers become involved in a different way, since they are institutionally forced to give up real resources to repay the debt service. This is the burden of public debt which is borne in full by later generations of taxpayers; future generations will pay the cost of bond-financed projects even if eventually those projects yield greater benefits than currently displaced private investments.[4]

Based on a "neutral" position, Modigliani (1961) questioned the soundness of the arguments put forward by the contenders, and argued that the relevant question is the long-run implications of public debt on capital accumulation. With this idea in mind the Keynesian argument that public indebtedness only affect the current availability of private resources is not valid. An increase in the public debt stock places a burden on the economy through the reduction of the private capital stock. However, such a burden may be offset to the extent to

which debt-financed public projects result in permanent additions to the capital stock and increased real incomes of future generations. Modigliani's contentions were also critical of Buchanan's positions since the latter implied that only the interests on debt constituted a burden on society, without any reference to the effects of taxation on incentives to work, save and invest. In Modigliani's opinion the burden controversy should be defined in terms of the effects of alternative government financial policies on capital accumulation.[5] Further developments of this position are discussed in Section IV below.

Other aspects of the polemic were pointed out by authors like Scitovsky (1961) who supported the no-burden position and explained that a burden is imposed only when governments fail to satisfy the interest payments. This could happen if debt-financed projects did not raise the expected yields and governments had to resort to increases in taxation. Finally, Mishan (1963) questioned the relevance of the debate by stressing that the net costs or benefits for society depend on the productivity of government investments and not on public indebtedness per se.

In historical perspective, the controversy may be summarized as follows: First, the debate confronted two different approaches to fiscal policy analysis: the traditional discussion of macroeconomic aggregates and the analysis based on individual roles. Buchanan defended a vision of the political process of fiscal policies in which citizens-taxpayers vote for the government projects and the method of finance. They will choose debt-finance if they want to postpone the reduction in consumption, but they will choose tax-finance if they opt for a reduction of current consumption (Fergusson, 1964).

Second, the polemic was restricted to full employment. The case of unemployment economies was a subsidiary issue. Buchanan supported the use of budget deficits only under extreme circumstances of depression and war, and stressed that on efficiency grounds those deficits should be money financed. Keynesian steeped economists upheld the case for cyclically balanced budgets and stressed that the burden argument could not be a barrier

against debt financed deficits since any burden could be eliminated by future government surpluses; thus, the government ability to generate surpluses was seen as the key to dispose of the burdens of debt financed deficits (Modigliani, 1961).

Finally, the debate was a new stage of the controversy on intergenerational effects of public debt. The historical links of this academic dispute with precedents in the British political economy of the 19th century and the contributions of Italian scholars since the 1880s was emphasized by Buchanan (1958, 1960). The presence of this historical nexus in more recent discussions has also been recalled by Buchanan (1976). It is to those classical roots to which we now turn.

B. Classical discussions on public debt

We start with the British tradition, although limiting the discussion to David Ricardo's writings which have been the focus of polemic in recent decades.

1. The Ricardian Theorems.

a. The Ricardian equivalence theorem

Keynesian concepts on public debt were not the unique target of Buchanan's challenge. The Ricardian proposition according to which taxation and government borrowing are logically equivalent was censured by Buchanan as an extreme case of agents rationality, and an idealized situation in which the essential differences between borrowing and taxation evaporate. It is useful to follow the Ricardian logic by quoting the paragraph in which the equivalence between taxation and government borrowing was spelled out:

> "When for the expenses of a year's war, twenty millions are raised by means of a loan, it is the twenty millions which are withdrawn from the productive capital of the nation. The million per annum which is raised by taxes to pay the interest of this loan, is merely transferred from those who pay it to those who receive it, from the contributor to the tax

> to the national creditor. The real expense is the twenty millions, and not the interest which must be paid for it. Whether the interest be or not be paid, the country will be neither richer or poorer. Government might at once have required the twenty millions in shape of taxes, in which case it would not have been necessary to raise annual taxes to the amount of a million" (Ricardo [1817], 1951, p.244-245).

In a different place Ricardo brought to light the role of intergenerational bequests:

> "It would be difficult to convince a man possessed of £20000, or any other sum, that a perpetual payment of £50 per annum was equally burdensome with a single tax of £1000. He would have some vague notion that the £50 per annum would be paid by posterity, and would not be paid by him; but if he leaves his fortune to his son, and leaves it charged with this perpetual tax, where is the difference whether he leaves him £20000, with the tax, or £19000 without it? This argument of charging posterity with the interest of our debt, or of relieving them from a portion of such interest, is often used by otherwise well informed people, but we confess we see no weight in it" ([1820] 1951, p.187)

Buchanan's interpretation of Ricardo's arguments can be summarized as follows:

Firstly, according to Buchanan, "Ricardo enunciated the proposition that the public loan and the extraordinary tax exert equivalent effects on the economy" (1958, p.43). This judgement refers particularly to the first Ricardian paragraph quoted above.

Secondly, Buchanan points out that Ricardo's implication that the burden of the debt cannot be shifted to future generations is only valid in a world of rational individuals who fully capitalize the future tax payments associated with a switch from tax financing to borrowing: "...Ricardo assumes that the creation of the debt, with its corresponding obligation to meet the service charges from future tax revenues, causes individuals to write down the present values of their future income streams" (1958, p.44). The author objects to the assumption that individuals fully discount future taxes. At least for individuals who own no assets that extreme rational behaviour cannot be applied. Additionally, all individuals do not act as if they live for ever; differences in ages and differential interests in future periods lead to the fact that individuals do not evaluate taxes and debt in the same way.

Lastly, Buchanan notes the fact that in Ricardo's propositions the logical bases of borrowing behaviour are ommited. Persons and institutions borrow to adjust spending flows over time, and governments borrow for similar reasons. "There is no raison d'être for public debt if this instrument is behaviourally equivalent to taxation" (Buchanan, 1987b, p.1045).

The revival of the public debt controversy in the mid-1970s refreshed some contributions of the late 1950s. At the center of that resurgence was the reformulation by Barro (1974) of the role of intergenerational bequests in offsetting the intergenerational distribution of income brought about by a shift from taxation to debt. In his refusal of Barro's work, Buchanan (1976) coined the well-known expression "the Ricardian equivalence theorem". Previously the same author had used the expressions "fundamental equivalence" and "equivalence hypothesis" (Buchanan, 1958).

b. The Ricardian Nonequivalence Theorem.

The resurgence of the public debt debate in the 1970s and the common reference to the Ricardian equivalence theorem stimulated a new exploration of the Ricardian remarks on public debt. Some authors concluded that Buchanan's version of Ricardo was partial, and that Ricardo had developed a nonequivalence theorem between taxation and debt. The key idea in the counterargument was that Ricardo's contentions were more complex and that he had been aware of the problem of public debt illusion (O'Driscoll, 1977; Tobin and Buiter, 1979). Although Ricardo indeed stated an equivalence theorem in the first paragraph cited above, it is alleged that he rejected its validity in different passages of his Principles (1817) or of his later article Funding System (1820).

The case for public debt illusion is clearly stated in the Principles:

> "It is a system (borrowing) which tends to make us less thrifty -to blind us to our real situation. If the expenses of a war be 40 millions per annum, and the share which a man would have to contribute towards that annual expense were £100, he would endeavour, on being at once called upon for this portion, to save speedily the £100 from his income.

> By the system of loans, he is called upon to pay only the interest of this £100, or £5 per annum, and considers that he does enough by saving this £5 from his expenditure, and then deludes himself with the belief that he is as rich as before. The whole nation, by reasoning and acting in this manner, save only the interest of 40 million, or two millions; and thus, not only lose all the interest or profit which 40 millions of capital, employed productively, would afford, but also 38 millions, the difference between their savings and expenditure" ([1817] 1951, p.247).

This paragraph illuminated a sharp contrast between taxation and the issuance of public debt. The latter would result in reduced saving and private investment. Taxation would be the preferred method of public spending financing. The point is how to reconcile this conclusion with the equivalence between the two methods stated in the pieces quoted before. In his Funding System Ricardo distinguished between what he called "in point of the economy" and the prevailing behaviour of economic agents. At the first instance the two methods would be equivalent, but the actual behaviour of individuals would lead to different results:

> "In point of the economy, there is no real difference in either of the modes ...; but the people who pay the taxes never so estimate them, and therefore do not manage their private affairs accordingly" ([1820], 1951, p.186)

Following O'Driscol (1977), Ricardo's distinction between equivalence "in point of economy" and nonequivalence in reality could be stated in terms of what "a hypothetical transactor with perfect foresight would do, and what transactors actually do" (footnote, p.208).

Under these considerations Buchanan's interpretation of Ricardo's view about public debt and taxation appears to be partial and unfair. Buchanan concentrated exclusively on the "in point of economy" argument. This is the reason why in the 1950s Buchanan alluded to a Ricardian world of rational individuals who fully capitalize the future tax liabilities originated in a shift from tax financing to borrowing. And this is the reason why in the 1970s in his controversy with Barro, Buchanan (1976) referred to the "Ricardo-Barro model" to characterize a world in which taxpayers fully capitalize the future obligations embodied in public debt issues.

2. The Italian contributions

The Italian work in fiscal theory has produced outstanding contributions to the public debt controversy. The so-called "La Scienza delle Finanze" was developed since the 1880s and the major writings covered the first half of this century. A wider consideration of this literature in modern public debt discussions is due to Buchanan (1958, 1960) who found in the Italian tradition followers and critics of the "equivalence hypothesis".[6]

For our own purposes the Italian thought can be sketched out regarding its closeness to the Ricardian positions. This is the method used by Chiancone (1985) and Eusepi (1989).[7] A first strand of literature represented by authors like Loria, Borgatta and Einaudi developed the no-burden, no-transfer concepts present in the Ricardian writings and later on in the Keynesian tradition. The emphasis on distributional consequences of public debt which is a characteristic of the Italian thinking appears vividly in Loria's writings during the 1880s:

> "In a period in which the possibilities of employing capital are increasingly limited by the growth of population, public debt is in the end, a means whereby those capitals, which could not obtain a sufficient rate of profit in ordinary ventures, receive it at the expense of taxpayers and are thereby exempted from the need to look for risky undertakings, which could lead to inevitable disasters. In such economic conditions, therefore, the State that issues public debt renders a notably useful service to the owners of liquid capital" (Chiancone, 1985, p.256)

In the late 1930s Einaudi left clear statements in favour of the no-burden position and offered a smoothing argument in support of the issue of public debt:

> "If we want to make an expenditure, we have to pay for it with present means, we must decrease, by an equal amount, the means available for reaching other present ends ... public debt is an instrument for distributing more conveniently in time, and without grave disturbances for the taxpayers, the burden of the extraordinary expenditure" (Chiancone, 1985, p.254)

Borgatta, writing at the end of World War II, applies the concept of Ricardian equivalence in a framework of social classes rather than in an intergenerational context. He finds how the Ricardian equivalence is only valid in the case in which capitalists hold liquid funds which could be channeled either to pay for an extraordinary tax or to acquire public bonds.

Otherwise the monetary policy would have to provide the liquidity required by capitalists to pay the extraordinary tax, with implications in the social distribution of credit.

A second line of thinking evoked by authors like Puviani and Griziotti called in question basic Ricardian propositions. First, Puviani developed at the beginning of the century a "finite horizons" argument against the Ricardian equivalence by concluding that persons prefer public debt because the present value of future tax payments is lower than the present value of an extraordinary tax. Second, Griziotti writing in the late 1910s criticized the Ricardian assumption of intergenerational solidarity and rejected the notion of solidarity between social classes. Even more, public finance was put at the centre of conflicts between persons, groups and generations:

> "In public finance the prevailing note is the triumph of individual interests, which succeed in prevailing on all the others by means of the conquest and exercise of political power: thus the necessary condition for admitting the social continuity from generation to generation disappears altogether" (Chiancone, 1985, p.265).

To sum up, in the Italian contributions public debt is largely associated with the way in which social conflicts are projected in budgetary policies. As with the British contributions, the Italian legacies are not confined to the past. As we report below, very recent developments on the political economy of government debt have followed the early orientation of the Italian writings. Regarding the modern debates on the Ricardian theorems, Section VI below is entirely dedicated to that topic.

C. The political economy of government debt.

The political economy of government debt has attracted the attention of economists particularly since the mid-1970s. Two main directions can be mentioned. One has been developed by Buchanan and his associates in the context of Public Choice and constitutionalist theories, where a central issue is the proclivity of democratic societies to create budget deficits. Two guiding principles in these frameworks are the notions of "fiscal

illusion" and "voters irrationality". A more recent line of research seeks to create a positive theory of debt. It follows the Italian and Swedish traditions at the core of which was the issue of "how governments choose policies". An important characteristic of this research is that economic policy cannot be disconnected from politics.

1. The constitutionalist view

a. The bias towards deficits in democratic societies.

The public debt controversy of the 1960s was spearheaded by supporters of the "sound finance" principle of balanced budgets.[8] What elements have extended the discussion over three decades after the burden versus no-burden polemic? After all, the Keynesian prescription of cyclically balanced budgets merely extended the time period over which the old wisdom would be applied. In this sense the critics accepted their closeness to the Keynesian tradition. Additionally, it was recognized that in the Keynesian view institutions matter, particularly in relation to the differential effects of taxes and debt on individual behaviour. As expressed by Buchanan and Wagner (1977): "In this respect, we are strictly Keynesian, rather than Ricardian ..." (p.135). The assumptions about the political environment in which Keynesian policies were to be applied constituted the essential source of divergence. This point has been clarified in the related literature since the mid-1960s. Keynesians, it was said, concentrated on the requirements of macroeconomic engineering without taking in account the prevailing interests of political powers.

Buchanan and Wagner (1977, 1978) explored the implications of democratic politics for the failure of Keynesian ideas and the upsurge of greater economic instability. The central idea is that once Keynesian fiscal views are accepted, a democratic society will tend to use excessively the expedient of fiscal deficits. The Keynesian prescription based on the symmetry of surpluses and deficits is not viable in the context of a democratic society. This society is not governed by an elite of technicians who would administer the budget

independently of political pressures. Deficit finance is seen as generating political support on the side of the beneficiaries of tax-cuts, increased transfers, or increased aggregate demand.

How is it possible that voters support a system of fiscal irresponsibility? In Buchanan and Wagner's framework, fiscal perceptions and tax institutions play a key role. It is suggested that individuals "perceive" the cost of public services to be lower under indirect taxation rather than under direct taxation. It is also mentioned that debt financed deficits reduce the perceived price of government goods and services, and therefore citizens-taxpayers will increase their demands for them. It is then concluded that individual fiscal choices are expoused to illusion -the so-called fiscal illusion- which influences budgetary decisions through the political democratic process.

b. A constitutional framework for fiscal policies.

Fiscal illusion and voters irrationality call for a constitutional reform which restores fiscal responsibility. Public Choice theorists -constitutional economists in particular- insist that the budget balance rule should be incorporated into the constitutions of democratic states.[9] From the scrutiny of the postwar experience it is observed that the Keynesian prescription of cyclically balanced budgets was issued without taking in account the institutional structure. Since, as it is alleged, there is a tendency in democratic governments to overspend and a natural resistance to adjust taxes upwards, budgetary policies in democratic structures are biased toward deficits.

In conclusion, macroeconomic stability is not only the result of demand-orientated policies or supply-orientated policies. The rules of the political game do condition the final outcomes. In the specific case of budgetary policies, constitutional economists evoke the classical principle of budget balance. In democratic societies, given their proclivity to budget deficits, that principle should be given the character of constitutional rule, explicitly incorporated in the constitutional documents of states.

2. Towards a positive theory of public debt.

Why similar countries offer different solutions to the debt problem? Alesina (1988) shows how major European countries gave different individual treatments to the large public debts accumulated during World War I. The clue for those dissimilar treatments was the way in which each society solved the income redistribution problem associated with the burden of the debt. Regarding the experience of industrial democracies during the 1970s and 1980s, Roubini and Sachs (1989a, 1989b) find that different political institutions in the various OECD countries help to account for different debt policies. Grilli, Masciandaro and Tabellini (1991) examine differing political and monetary institutions in the OECD economies since world War II, and find that authorities in these countries applied different financial policies in response to incentives resulting from different political and monetary institutions. The relationship between debt policies and political and institutional contexts are sought to be explained by the novel literature on positive theory of government debt policy.

The new literature discards the Buchanan's guiding notions of "fiscal illusion" and "voters' irrationality" for not being compatible with the standard assumption of rationality. Interestingly, as in Buchanan's writings it is found that there exists a deficit bias in democracies. The explanation is different, however. While in Buchanan it is the myopic behaviour of citizens which results in the bias toward deficits, in the new approach it is the disagreement between citizens which explains the proclivity to budget deficits.[10] Under an electoral system, the citizens disagreement results in different preferences about public expenditure (such as the level or the composition of government expenditure) between current and future policy makers; it is this disagreement and the uncertainty of future reelection which leads a policymaker to leave a greater public debt to its successor. Alesina and Tabellini (1990) conclude that the equilibrium value of public debt tends to be larger the greater is the polarization between alternating governments, and the more likely it is that the current government will not be reelected.

Given the existence of different preferences about public spending between alternating governments, it is argued that a current government may influence policies carried out by its successor, provided that the former can affect a state variable which enters in a critical way in the latter's decision problem. In the literature under discussion the level of public debt is the state variable which allows a current government to influence the fiscal decisions of its successor; public debt appears to be strategically used to affect the choices of future policymakers (Person and Svenson, 1989. Alesina and Tabellini, 1990, 1992. Tabellini and Alesina, 1990). Public debt can also be used strategically by the current generations to influence the intergenerational distribution of resources (Bohn, 1992. Tabellini, 1991).

An alternative line of research associates the accumulation of public debt with government weakness instead of the alternation of governments with different preferences. It is the dispersion of power across discretionary levels what leads to myopic decisions regarding budgetary policies. The greater the disagreement between decision-makers, the less likely the adoption of collective decisions favourable to government financial equilibrium (Grilli, Masciandaro and Tabellini, 1991). In the end, both two lines of research find that it is the existence of political incentive constraints (the succession of governments with different views about public budget policies, or weak administrations which lack strong political support) what creates a bias toward budget deficits.

Is it possible to derive normative conclusions from the recent political theory of debt? As in Buchanan's writings, the new literature call for institutional reform. However, contrary to the former, there is no suggestion of prescribing balanced budgets at the constitutional level. It is asserted that governments should not be free to choose the levels of public debt left to their successors. The practical suggestion points out that a cooperative behaviour of political parties would reduce the tendency to use public debt as a strategic variable to influence future governments. Political parties could agree on a series of contingencies (such as wars and national disasters), which would allow policy makers to depart from

balanced budgets (Alesina and Tabellini, 1990. Tabellini and Alesina, 1990). The proposal of political agreement is reminiscent of the "consensual agreement" between citizens recommended by the Sweden economist Wicksell ([1896], 1958) in one of his classical contributions to the theory of public finance.[11]

D. Concluding reflections and links with other sections of this work.

By the end of World War II the Keynesian notion of cyclically balanced budgets had left behind the fears associated with public debt. Abba Lerner used the expression "imaginary evils" to discredit those apprehensions against public debt. But in public debt as in other areas of academic controversy the agreement among researchers was not a convergent process (Aaron, 1989). The new budgetary wisdom was challenged by the iconoclastic contributions of James Buchanan and his associates since the late 1950s who argued that budget deficits created a burden on future generations. A lasting criticism which has received special attention in recent decades refers to the political assumptions of Keynesian budgetary policies. Cyclically balanced budgets, it was said, are not viable since there is a tendency towards fiscal deficits in democratic politics.

The advocacy of balanced budget constitutional amendments is not unique to Buchanan's writings. As we will see in Section VI below, Buchanan and Wagner (1977), and Lucas (1986) have coincided in the proposal of binding constitutional constraints on fiscal policies, though the frameworks are at variance. Fiscal illusion and voters' irrationality are the reasons in Buchanan's framework. Things are different in the Lucas economy populated by rational expectations agents who live forever. The budget is intertemporally balanced, in opposition to the Buchanan's prescription of continuously balanced budgets. Deficits and surpluses are seen as optimal responses to low and high income periods, and not as Lernerian functional finance responses to business cycles. The constitutional constraint on budgetary policies is seen as a pre-commitment to avoid time-inconsistent fiscal policies; a sort of constitutional rule destined to assure annual balanced budgets over normal periods.

The recent political theories of government debt also find a case for institutional reform. Although it is not argued in favour of balanced budget constitutional amendments, it is stressed that the suboptimal behaviour of governments regarding public financial policies could be eliminated by means of cooperative agreements between political parties.

What is the relevance of these reflections for our historical scrutiny in Part IV? We offer one illustration of marked importance in the Colombian experience related to the imposition of constitutional restrictions on the financing of government deficits.

A constitutional amendment carried out in 1910 incorporated a new clause according to which "Any future issue of fiat money is absolutely forbidden". This clause made part of a chapter on civil rights and social guarantees instead of being part of the public finance chapters of the constitution. Since at that time a well organized banking system was not yet in place, fiat money meant money issued by government decree. The constitutional amendment was proposed after a period of civil war accompanied by hyperinflation. The amendment was the result of a cooperative behaviour of political parties and was also thought as a first step to adopt the gold standard, a regime which would demand a high degree of fiscal discipline.

Although the constitutional amendment per se became dated in a few years, the cooperative behaviour of political parties to impose constraints on the monetary financing of budget deficits continued through the decades. Importantly, when the central bank was established in 1923, it was constituted as an institution highly independent from the government, and its potential loans to the government were limited to a fraction of capital and reserves of the bank. Given a small internal market for private investment in government bonds, authorities understood that the limit imposed on the bank loans to the government not only restrained the possibility of money financed deficits but also implied a boundary on the expansion of the internal public debt. Of course, government deficits could still be financed with external

debt, but at that time it was not seen as a practical choice, given the sporadic access of the country to external capital markets during the first two decades of the century and the inactivity of those markets during the early 1920s.

Historically, the access of the government to central bank loans has always been limited by law, and during the first three decades after World War II they represented a very small proportion of the internal public debt. Nowadays, after a constitutional amendment adopted in 1991, not even Congress is authorized to allow a limited access of the government to the central bank financing. If required, the government could apply for loans to the central bank board, and if accepted, the rate of interest would be the rate paid on bonds sold to the public in open market.

The important lesson that we extract from these experiences is that political and monetary institutions have played a role in restricting the access of the government to central bank loans, and therefore in controlling the expansion of the internal public debt. However, as we will see in the next three parts of this study, that controlled expansion was limited to periods of normality when the economy was not subject to extraordinary shocks, particularly originated in the external sector.

SECTION II

NOTES

1. That public debt is a component of wealth and that interest payments on the debt is a mere transfer from tax payers to bondholders was an idea already accepted by the Mercantilists. One of his exponents, Jean F. Melon in his Essay sur le Commerce (1736) sustained that: "the debts of a nation are debts due from the right hand to the left, by which the body is not weakened". These ideas were rejected by Hume in his Of Public Credit. Hume highlighted the costs involved in raising tax revenues to pay the interests on the debt, and discussed how debt increases adversely affected capital accumulation. A recent and detailed review of these controversies is found in Mundell (1993).

2. "We see then that the kind of evil most popularly ascribed to national debt are wholly imaginary ... and that the direct application of the basic principles of Functional Finance are an adequate general guide to fiscal policy. If the short-run equilibrium is taken care of so that there is ... neither inflation or depression, and a normal amount of reasonableness is applied in choosing between the different ways of achieving this short-run equilibrium, the long-run equilibrium of the size of the national debt will look after itself". Lerner (1948, p. 275)

3. The controversy was carried out under the following assumptions: full employment of resources, a fixed plan of government expenditures, and, taxation and debt as the only alternatives to finance government expenditures. Money-financed deficits did not constitute an issue of debate. Buchanan (1958) accepted money-financed deficits on efficiency grounds, only under conditions of extreme depression or war.

4. In Buchanan's framework taxation and public indebtedness are operations of different nature. The former requires one exchange between beneficiaries of the public expenditure and tax payers. This exchange is performed under the compulsory action of the State. The latter involves two exchanges: the voluntary purchases of bonds, and the compulsory exchange caused by taxation. Under a tax financed expenditure the government imputes the corresponding liabilities to a definite set of tax payers at the time of the operation. Under a debt financed scheme the funds are secured at the time of the operation but the liabilities are postponed to be paid off by future tax-payers; the burden of the debt is placed on the shoulders of future generations.

5. In a review of the debate, Tobin (1965) reemphasized Modigliani's criterion that the important matter was the effects of public debt on capital accumulation. Further, he criticized the fact that in the Modigliani's model bondholders were affected by an asymmetrical illusion whereby they felt wealthier without taking in account the future tax liabilities associated with the repayment of public debt. As seen in Section I above, Tobin considers future tax liabilities as far as they affect private wealth held in assets other than bonds.

6. "This proposition [the Ricardian Equivalence] has been discussed at such greater length in Italian works that it may be properly said to belong to the Italian rather than to the English tradition" Buchanan (1958, p.114). This comment made in the late 1950s could be valid until the mid-1970s when the Barro (1974) contribution opened a new strand of Anglo-Saxon literature on public debt.

7. The quotations are from Chiancone (1985).

8. The "sound finance" principle recommended a "moderate surplus" to reduce the possibility of deficits. Writing in 1903, Bastable indicated that:

"... under normal conditions, there ought to be a balance between these two sides (expenditure and revenue) of financial activity ... This general principle must, however, admit of modifications. Temporary deficits and surpluses cannot be avoided ... The safest rule for practice is that which lays down the expediency of estimating for a moderate surplus, by which the possibility of a deficit will be reduced to a minimum" (Buchanan and Wagner, 1977, p.10).

9. Public Choice has evolved since the late 1960s as the application of economic methods in political analysis. The political process is considered similar to the market process, and as in the neoclassical methodology, the decision making procedure is centered on individuals. However, Public Choice adds new considerations to the standard efficiency results by dealing with the institutional context within which individuals take decisions. The subject of study is the choice of constraints, rather than the choice within coinstraints which is the matter in orthodox economics (Buchanan, 1987a).

10. The new literature is also critical of the political business cycle theory of Nordhaus (1975), according to which policy makers overstimulate the economy before elections in order to maximize their reelection probabilities, and adopt recessionary policies after the election. In this theory, voters "never learn", and policy makers "never loose credibility".

11. Consensual agreements have also been a constant in Buchanan's writings. In Buchanan (1949) two approaches to fiscal policies are differentiated: the organismic theory of the state, and the individualistic foundation. In the former, the state is the unit which decides for society as a whole. In the latter, decisions are taken by individuals, and the state projects certain collective aspirations. The existence of consensual agreements among individuals provides the only benchmark against which to evaluate individual decisions. These agreements should be ratified as constitutional rules of the game.

SECTION III

Public debt in economic growth models

Introduction

Prosperity with relatively low inflation characterized OECD economies during the first quarter of a century after the end of World War II. In major European countries and Japan the growth rates of GDP during 1950-1973 were higher than in any previous period. Although this was not true for the United States (the highest recorded growth rates were obtained during the period 1870-1913), the same European countries, Japan and the United States exhibited unprecedented high growth rates of per-capita GDP. Additionally, unemployment was very low (excepting Germany and Italy in the 1950s) in comparison with the experience of the interwar years. These encouraging facts about growth and employment were accompanied by a rather new event, the appearance of persistent and increasing though still low inflation rates (Maddison, 1987; Mattews and Bowen, 1988).

Growth theory burgeoned in the propitious atmosphere of the 1950s and 1960s. Solow (1956) and Swan (1956) explained the basis of the neoclassical approach to economic growth, and Tobin (1965) applied the model to monetary economies. After a general background in subsection A, in subsection B we present the monetary growth model, also called the neoclassical theory of public debt, and discuss the implications of government bonds in a neoclassical growth model. It is shown how by introducing government bonds

in the model, capital accumulation is affected and also the dynamics and stability of the system.

Optimal growth models are dealt with in subsection C. Although originally developed in the 1920s, they were left aside during the world depression of the 1930s and World War II. It was in the optimistic environment of the 1960s that optimum growth attracted the attention of economists. After discussing the basic setup, we ask what the implications are for private consumption of allowing government deficits. The answer is an unambiguous and strong result: government deficits do not affect consumption, and therefore, public debt does not matter. This overwhelming upshot did not refrain economists from finding a room for fiscal policy in mixed economies, in the context of optimal growth models. Such a role was found to be that of persuading the private sector to produce investment goods at the rate dictated by optimal growth considerations.

The literature surveyed in subsection D seeks to enrich the neoclassical theory of public debt by explicitly incorporating two new elements: one refers to the central role of the government budget constraint in the determination of capital intensity and the rate of inflation, and the other one recognizes the presence of institutions (such as the Central Bank and the Treasury) with their own objectives and strategies, behind specific financial policies. Finally, in subsection E we indicate how the main topics in this section are the basis for further sections of this work.

A. The background.

Modern growth theory was conceived in the 1930s and 1940s under the influence of the great depression and World War II. Pioneering works by Harrod (1939) and Domar (1946) examined the problem of economic growth in a Keynesian spirit. The main concern was the capability of capitalist economies to achieve a steady-state growth. Through different ways Harrod and Domar arrived at a unique condition under which a modern

economy -capitalist or centrally planned- would reach a path of steady-state growth: the relation of the saving rate s to the capital-output ratio v should be equal to the rate of growth of labor force n.

The arguments behind the Harrod-Domar condition s/v = n reveal its Keynesian characteristics. For capital to be fully employed, output should grow at the rate s/v, and for labour to be fully employed, output should rise at the rate n. Harrod (1939) called s/v the warranted rate of growth, and n the natural rate of growth.[1] A steady-state growth might not exist, however. An excess of the warranted rate over the natural rate would bring about an excess of capital driving the marginal productivity of capital to zero and discouraging investment. If, on the other hand, the natural rate exceeded the warranted rate there would be increasing unemployment of labour. In both two cases a hypothetical economy would move away from an equilibrium growth path. An equilibrium growth, if it existed, would be a knife-edge equilibrium. Formed in the Keynesian mode and sharing the stagnation thesis which gained currency in the late 1930s (Section I, above), Harrod's analysis emphasized the possibility of a warranted rate secularly superior to the natural rate.

Neoclassical growth models criticized the knife-edge version of economic growth according to which a steady state equilibrium might not exist. In the economic context of the 1950s and 1960s with the leading Western economies working at a high level of demand and full employment, the Hansen's stagnation thesis was considered not just as an outcome of the depression of the 1930s but as an incorrect interpretation of the evolution of capitalist economies. In the same way, growth models brought into being during the depression and the War were censured as a wrong view of the capitalist development.[2]

On technical grounds the knife-edge characteristic of the Harrod-Domar model resulted from the fact that s, v and n were set up as constants. Neoclassical writers questioned the assumption of a capital-output ratio v derived from a fixed coefficient production function

and introduced technological flexibility. The new models embodied a range of feasible steady states, and then alternative consumption paths for the society to choose. In this context there would exist a growth path which would guarantee a higher level of per-person consumption than any other growth path, namely, there would be a saving rate and a corresponding capital-output relation which would maximize consumption. This was the neoclassical golden rule of capital accumulation.

According to the golden rule the saving ratio should be chosen in order to set the capital-labor relation K/L at a level in which the social return on investment r was equal to the natural growth rate, r=n. In this sense, any growth path on which the K/L always exceeded its golden rule level by at least some constant amount, or any path which kept the r below its golden rule value by at least some constant amount would be defined as dynamically inefficient, because there would always exist another path which, starting from the same initial capital stock would generate a higher consumption (Phelps, 1965). The golden rule concept will be repeatedly used in this section and also in sections IV and VI below.

Neoclassical growth models captured an important part of the theoretical and empirical research in economics in the late 1950s and 1960s. The relationship between government policies and growth was a topic of debate. Could there exist a meaningful growth policy when exogenous factors -population growth and technological progress- were thought to be the determinants of the long-run rate of growth? Could government policies be neutral as between present and future consumption? Some writers argued that any policy mix affects the composition of current output and future social endowments. However, it was observed that the existence of imperfect capital markets would require the intervention of governments in the process of intertemporal social choices. In general, it was admitted that the relevant issue would be the consistency of current policy mixtures and the final objective of economic growth (Tobin, 1964).

Other areas of debate focused on the projections of growth theory on policy grounds. Various authors expressed the need for a synthesis between the long run and full employment theories of growth, and the short run macroeconomics applied to unemployment situations.[3] Some approaches intended a direct application of neoclassical growth theory to economic policy. The so-called monetary growth models or neoclassical theory of public debt as outlined by Tobin ([1955], [1965a], [1968], [1971]), are representative of these lines of research.

Finally, other researchers paid attention to the problem of the optimal growth path. Based on the classical contributions of Ramsey (1928) for a planned economy, and of Solow (1956) for a decentralized economy, these endeavours considered the case of mixed economies in which governments use policy instruments -government bonds and money supply- to achieve the optimal growth path.

In the next two subsections -B and C- we review the last two areas of research with emphasis on the neoclassical theory of public debt as it was developed in the 1950s and 1960s in the framework of monetary growth models and optimal growth models. We start with basic monetary growth models in which the underlying issue is how the introduction of public debt into the structure of a neoclassical growth model affects the standard results as obtained by Solow (1956) [Box III.1]. We initially review the Tobin (1965a) model which opened the modern literature on monetary growth models, and discuss an explicit illustration of how government bonds "matter" in a two-asset model. Finally, we turn to superneutrality models in which public debt does not matter. An important point to note before we proceed is that the relevant literature generally used the concept "public debt" to indiscriminately refer to government liabilities such as money and interest bearing government bonds. When the literature reviewed here exclusively refers to either money or bonds, the point will be made clear in the text.

BOX III. 1
The Solow model

In the Solow (1956) model, the labor force L given by exogenous population growth, increases at a constant rate, n. Output Y is produced using capital K, and labour. The production function Y=F(K,L) exhibits constant returns to scale, and then the per-capita production function can be written as y=f(k). Saving is a constant fraction of income, S=sY. Net investment is the rate of increase of the capital stock, DK, where D is the time derivative d/dt; then, the basic macroeconomic identity is DK=sY.

The behaviour of the per-capita capital stock is given by Dk=sf(k)-nk; this is the fundamental equation of capital accumulation, or neoclassical differential equation of economic growth. Alternatively, this equation can be written as Dk=f(k)-nk-c. The steady state per capita capital stock k* is given by this equation when Dk=0. In the steady state k is constant and then K and L grow at n, the exogenous rate of population growth. Therefore the Harrod-Domar consistency condition is satisfied.

In the capital accumulation equation, when k is out of the steady state (k<k* or k>k*), k increases (because sf(k)>nk), or decreases (because nk>sf(k)), until the long run k* is achieved. In conclusion, the model provides an equilibrium path for the per-capita capital stock and the system is globally stable.

B. Basic monetary growth models.

In monetary growth models the question "Does public debt matter?" is addressed in the context of the superneutrality debate of the late 1960s. Superneutrality refers to the long-run neutrality of a change in the rate of growth of money in a growing economy, rather than to once-and-for-all changes in the quantity of money in stationary economies. Specifically, superneutrality means that a change in the growth rate of money affects no real variables other than real balances.

1. The Tobin monetary growth model.

Tobin (1965a) generalized to a monetary economy the Solow (1956) real growth model [Box III.2]. One of the reasons for this generalization was the monetary character of modern economies, and therefore the analysis of the implications of this institutional fact on growing economies. Two strong ideas dominate the Tobin approach. The first one is the Keynesian thinking according to which in the short run monetary factors and portfolio decisions affect the process of capital accumulation; Tobin attempts to prove that "a

similar proposition is true for the long run. The equilibrium interest rate and degree of capital intensity are in general affected by monetary supplies and portfolio behaviour, as well as by technology and thrift" (p.684). Technology and thrift represent the neoclassical tradition in saving-investment analysis as well as in economic growth. The novelty of the contribution consists in the incorporation of monetary effects on the degree of capital intensity. These are the so-called "Tobin effects". The second idea refers to the capital-money conflict which is set up as a problem of portfolio decisions: capital and money compete for the placement of saving based on their relative returns.

BOX III. 2
The Tobin (1965a) model

1. As in Solow (1956) [BOX III.1], $S=sY$, and $y=f(k)$.
2. Wealth and portfolio behaviour.
Real wealth (A) is kept in the form of capital (K) and real money balances (M/P). In per-capita terms, real wealth (a) is $a=k+m$. The desired composition of wealth is given by the demand for money function $m_d=k\phi(r+\pi)$, where r is the real interest rate and π the rate of inflation. Accordingly, m_d is proportional to the per-capita capital stock and a decreasing function ($\phi'<0$) of the nominal interest rate ($r+\pi$).
3. Government deficits and disposable income.
Government deficits take the form of monetary transfers (DM) to the private sector. In real terms these transfers are $DM/P = \theta M/P$ where θ is the growth rate of money DM/M. Considering the effects of the inflation rate on real balances, the real disposable income is $Y_d=Y+(\theta-\pi)M/P$.
4. Capital accumulation, steady state and Tobin effects.
The capital accumulation equation is $DK=s[Y+D(M/P)]-D(M/P)$ which in per capita terms becomes $Dk=sf(k)-nk-(1-s)(\theta-\pi)m$. The growth rate of real per-capita money balances is $Dm=(\theta-\pi-n)m$. The steady state relationship between capital and real money balances is obtained for $Dk=Dm=0$, as follows: $0=[sf(k)-nk]-[(1-s)nm]$ which shows that to lower equilibrium real money balances correspond higher levels of capital accumulation.

Three main conclusions are reached. First, superneutrality does not obtain in Tobin's extension of the Solow growth model to a money economy, namely monetary factors affect the real characteristics of the steady states. Second, in a monetary economy savings finance not only the accumulation of physical capital but also of real money balances. This means that the equilibrium capital intensity in a monetary model is lower than in the Solow real model: the higher the desired real balances, the lower the equilibrium capital-labor ratio. Consequently the golden rule saving ratio is no longer the one that maximizes steady state consumption in nonmonetary models (Sidrauski, 1967b); a higher saving ratio is

required to accomplish that target in a monetary economy. Third, a higher inflation rate would invariably lead to a higher degree of capital intensity.

We next describe a two-asset model which incorporates government bonds. We show how the new asset affects the dynamics and the long-run equilibrium of the Solow (1956) model, and discuss the stability issue which arises not only in this particular setting but in monetary growth models à la Tobin.

2. Public bonds in the Solow model. The stability issue

Shell, Sidrauski and Stiglitz (1969) introduced government bonds as a second store of value into the Solow model. It is shown how the presence of government bonds in the neoclassical growth model alters the long-run equilibrium value of the capital labour ratio, and also the dynamics and stability of the system. The basic insight can be described as follows: the equilibrium capital intensity is affected not only by the growth rate of public bonds, but also by the capital gains derived from changes in their market prices. The overall conclusion is "government debt matters". A graphical illustration of the model is provided in BOX III, 3.

BOXIII.3
Government bonds "matter". A diagrammatic example from the late 1960s.

As in Tobin (1965a), saving is a constant fraction of real income which in this model is defined as real output plus capital gains from changes in bond prices. Real investment is then the part of real savings which is not absorbed by increases in bond holdings and capital gains. A crucial aspect of the model is the hypothesis of expectations formation. It is assumed that individuals instantaneously adjust their expectations about price changes. In the context of the adaptive expectations theory represented by an equation like $d/dt(\pi^e)=h(\pi-\pi^e)$, the instantaneous adjustment is illustrated by the h coefficient tending to infinity. This is a case of short-run perfect foresight or "myopic foresight" in which individuals only know the price at the next moment.

The laws of motion for per-capita capital k and per-capita bonds b are given by

$$Dk = sf(k)-nk-(1-s)[\alpha+q]b \qquad (1)$$

$$Db = [q+\alpha-n]b \qquad (2)$$

where α is the rate of growth of public bonds, α=DB/B, and q stands for capital gains derived from changes in bond prices. The interest rate on government bonds is assumed to be zero. Equation (1) has the standard structure of monetary growth models: the first two terms on the right-hand side give the law of capital accumulation in the Solow model, and the third term indicates that given a saving ratio s, public bonds add to private balancesheets according to α and q but displace a whole unit of real capital.[4]

FIGURE 1

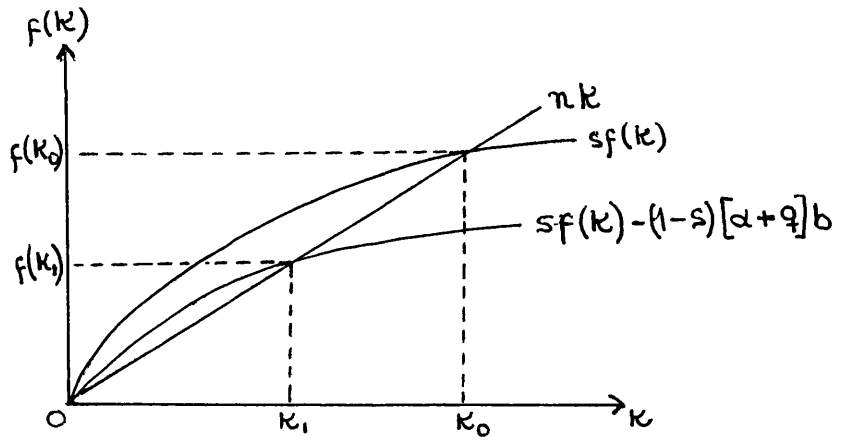


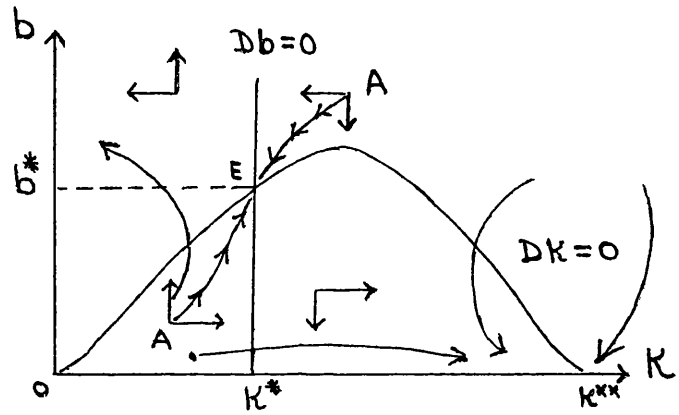
Figure 1 shows the equilibrium ratio k_0 determined by the intersection of sf(k) with nk in the Solow model, and the lower equilibrium ratio k_1 determined by the intersection of sf(k)-(1-s)[α+q]b and nk when public bonds are a second asset. The figure shows that even when α=DB/B=0, the existence of capital gains on government bonds implies a lower long-run equilibrium for k than in the Solow model.

Figure 2 is the phase diagram of the system (1) and (2) drawn in the (k,b) space. From (2), Db=0 if and only if q=n-α. Given n>α, which means that the growth rate of the economy is greater than the growth rate of public debt, there is a unique value k* for which Db=0. To the left of the Db=0 locus, k<k* and b is increasing (Db>0); similarly, b is decreasing (Db<0) to the right of the locus, where k>k*. These directions of motion are shown by the vertical arrows. The locus Dk=0 starts from the origin and crosses the horizontal axis at point k** where sf(k**)=nk**. This is the Solow equilibrium of the system for Db=0. Above the Dk=0 locus, k is decreasing (Dk<0) simply because public bonds are above the level which would keep k constant, and below the Dk=0 locus, k is increasing (Dk>0).

The horizontal arrows illustrate these directions of motion.

Two relevant points appear in Figure 2. The solution (k*,b*) which assures balanced growth equilibrium for an economy with capital and public bonds, and the Solow solution for a real growth model (k**,0).[5] While the former equilibrium is a saddlepoint, the latter is locally stable. In Figure 2 only the trajectory AA, the saddlepoint path that converges to E satisfies the differential equations (1) and (2). All other paths, either tend to the Solow solution or imply such attractive capital gains that real investment falls to zero. If the initial conditions are "just right", that is, lie along AA, the system will converge to equilibrium with capital and bonds. Expectations are also fulfilled on paths tending to the k-axis; however, this latter result is specific to the model under discussion, and more general conclusions relevant to government debt and monetary growth models may be drawn with reference to the stationary solution (b*, k*).

FIGURE 2



A highly controversial result of early monetary growth models was that an economy would fail to reach a steady state equilibrium, except if it started from a "right position" (Nagatani, 1970). The instability found in these models is characteristic of competitive models with more than one asset and an asset market clearing equation consistent with the hypothesis that individuals instantaneously adjust their expectations about price changes (Hahn, 1966). In monetary growth models à la Tobin, the asset market clearing equation states that the supply and demand for real balances are always equal; additionally, it is assumed that the expected rate of price change is equal to the current rate of price change. Altogether, these assumptions are the source of instability. For instance, after a shock that displaces m above (below) its steady state value, in order to induce agents to increase (decrease) their demand for real balances the rate of inflation must fall (increase); but as a

result of this reaction of the inflation rate, m moves further away from its original equilibrium.[6]

Early discussants of the monetary growth model indicated that a sluggish adjustment of expectations (a low value of the adjustment coefficient h in the expectations equation in Box III, 3) was necessary for stability (Sidrauski, 1967b; Stein, 1971).[7] Other critics sustained that stability would be guaranteed by the existence of future markets for all periods in the future, or by investors who exercised long-run perfect foresight (Shell and Stiglitz, 1967). Sargent and Wallace (1973) suggested a way out of the instability problem by allowing prices to depend not only on their past history -as in the early monetary growth models- but on other relevant variables; specifically, after a change in m above (below) its steady state value, the price level would rise (fall) instantaneously thereby eliminating the change in real money balances without affecting the inflation rate. In other words, (saddlepoint) instability was no longer a characteristic of monetary growth and government debt models.[8] Further discussions reached (global) stability by adding new elements to the original model. For instance, when a third asset such as private interest-yielding bonds are introduced to the usual two-asset economy (Takayama, 1994).

We now finish this subsection with a brief reference to superneutrality models which are invariant to changes in public debt.

3. A case for superneutrality. The Sidrauski model.

The nonsuperneutrality results attained in Tobin ($_{1965a}$) and Sidrauski (1967b) were called into question in Sidrauski (1967a). In this latter influential article an anticipated inflation created by money-financed government net transfer payments no longer affects the long-run capital intensity. The rate of monetary expansion affects no real variables such as consumption, capital intensity and real interest rate; only the real balances are affected by changes in the growth rate of money.[9] Unlike the monetary growth models where savings

are postulated as a fixed proportion of real disposable income, in this model they are derived from utility maximization. The model considers a representative infinitely lived family which maximizes an intertemporal utility function whose arguments are consumption and real balances. In the context of an economy which grows at a constant rate with a linearly homogeneous production function, Sidrauski shows that money is superneutral.[10]

Superneutrality exclusively refers to the steady state, since changes in the growth rate of money affect capital accumulation in the short run. Fischer (1979) corroborates that in the Sidrauski (1967a) maximizing model the trajectory of the economy to the steady state is not in general independent of the growth rate of money. The superneutrality result has obvious implications for the historical perspective of public debt theories since contrary to models à la Tobin the steady state capital intensity is invariant to changes in public debt. We now move to discuss optimal growth models, an area of research which stimulated new developments of the theory of public debt during the 1960s.

C. Public debt in optimal growth models

Two main lines of research dominated the attention of theorists of economic growth in the 1960s. One focused on the growth possibilities of a full employment market economy, given technology; the Solow (1956) model was a representative contribution of this area of research. The other source of contributions analyzed the case of fully planned economies, given technology; these efforts continued the pioneering exposition due to Ramsey (1928).

Two sets of questions are relevant for the discussion of public debt in the context of optimal growth models. First, how the optimal development results for a planned economy are affected when allocation decisions are made in a decentralized fashion? And, what are the effects of government intervention on this decentralized setting through bond-financed

deficits? Second, is there a room for discretionary fiscal and monetary policies in optimal growth strategies? What are the implications of this analytical perspective for the current "burden of the debt" debate of the 1960s?

The first set of questions is discussed along the lines of an optimal neoclassical growth model. The final aim is to examine the resource allocation effects of bond-financed deficits. The second set of questions tries to find an intermediate way between the polar strategies due to Ramsey (1928) and Solow (1956). The purpose is to determine how governments could achieve an indirect control of the capital accumulation process through monetary policy -by changes in the relative proportion of money and government bonds-, and budgetary policy -through changes in the size of government deficits (surpluses)-. The particular case discussed here is a Tobinesque model in which the asset and consumption goods markets determine the equilibrium prices of money and capital. It is shown that government policies can alter these equilibrium prices, and depending on the specific policy mix, the capital accumulation, either in the short run or in the long run. Further, the model is enriched by postulating a social welfare functional for the government, in order to provide sound foundations to policy measures in a mixed economy.

1. Common features.

Although optimal growth models bloomed in the late 1960s, the central question had been posed by Ramsey in 1928 on the eve of the great depression: "how much of its income should a nation save?" (p.543). The open discussion of this problem burgeoned in the sixties with their record of full employment and expansion.[11] Some common features characterize optimal growth models. First, society "goes on forever" which means that these strategies adopt an infinite time horizon. Second, economic growth is understood in terms of consumption rather than in terms of capital accumulation; consumption concerns to the very end of growth while different levels of capital stock reveal previous decisions

on resource allocation. Third, a social welfare function is the optimality criterion for choosing between alternative consumption paths.[12]

The specification of the social welfare function reveals the consumption distribution scheme adopted by society. This scheme depends on the shape of the utility function as well as on the existence and magnitude of a social discount factor.[13] It is assumed to prevail for ever leaving aside any possible change in social choices. This outcome is explained by the resemblance of the analytical procedure with those employed in physical sciences.[14] Now we turn to essential features of the neoclassical optimal growth model.

2. A basic model

In optimal growth models the problem of society is to choose a time path for per-capita consumption in order to maximize a social welfare function, given an infinite time horizon and a positive discount rate, or rate of time preference. At successive points in time, allocations of income between consumption and investment are expressed in terms of the available capital stock. Taking the capital-labor ratio as a continuous time variable, the basic constraint is the fundamental equation of capital accumulation (Box III, 1 above).

An essential upshot of the maximization problem is that the solution obtained for a centralized economy also applies to a decentralized economy. One specific result shows that the growth rate of population and the rate of time preference, altogether determine the real interest rate, and according to the production function, the steady state capital intensity. Another result gives the level of consumption which is consistent with the real interest rate and the steady state capital intensity. Basic developments and results of optimal growth models are provided in Box III, 4.

BOX III. 4
Basic results from standard optimal growth models

Formally, at time t_o society will find the solution to the following problem:

$$\text{Max. } W = \underset{[c(t)]}{U[c(t)]e^{-\delta(t-to)}dt} \qquad (3)$$

$$\text{subject to } Dk = f(k)-nk-c$$

$$\text{and } k(t_o) = k_o$$

where W is the social welfare function to be maximized, U is the utility function, c(t) is the time path for per capita consumption, δ is a positive social discount rate, Dk=f(k)-nk-c is the capital accumulation equation, and $k(t_o)=k_o$ is an initial condition.

From the solution to this problem (Intriligator, 1971), if the time paths of consumption $[c_t^*]$ and capital $[k_t^*]$ are optimal, they must satisfy the differential equations:

$$Dk = f(k)-nk-c \qquad (4)$$

$$Dc/c = \mu(c_t)[f'(k)-n-\delta] \qquad (5)$$

where $\mu(c_t)$ is the instantaneous elasticity of substitution.[15] For Dk=0 and Dc=0, the steady state equations are:

$$c = f(k)-nk \qquad (4')$$

$$f'(k) = n + \delta \qquad (5')$$

Equation (4') corresponds to the steady state sustainable consumption per capita. Investment per capita must equal nk to sustain a constant per capita capital stock in the steady state. Equation (5') corresponds to the modified golden rule given a positive social discount rate.[16]

What happens to these results when instead of a planning board, families and firms determine the resource allocation in a competitive market context? The budget constraint of the representative family can be written as the identity between her sources of income (wages, w, and interests, r) and the expenditure in consumption and investment. Then, at any time t,

$$w_t+r_tk_t=c_t+Dk_t+nk_t \qquad (6)$$

where w_t and r_t are determined in the factor markets when firms maximize profits according to the standard neoclassical conditions $f'(k_t)=r_t$ and $f(k_t)-k_tf'(k_t)=w_t$.

In this framework the problem of the representative family is to maximize a functional such as (3) subject to the budget constraint (6). The necessary condition is given by

$$Dc/c = \mu(c_t)[r_t-n-\delta]$$

which is the same necessary condition obtained for the centralized economy. Therefore, the steady state results and the dynamic analysis obtained before for the centralized economy apply to the decentralized economy.

So far we have overlooked the role of government. One could question to what extent government deficits affect consumption. We answer this question in the next subsection by following the idea that the fully informed forward-looking representative family incorporate the implications of the government budget constraint into its own (Frenkel and Razin, 1987).

3. Government spending, government deficits and private consumption

The starting point for analyzing the role of government is the consideration of the government budget identity, according to which the primary deficit and the interest payments on the outstanding debt are financed with public debt increases. When this identity is generalized to many periods, we obtain an intertemporal government budget identity which states that the government could incur in deficits financed with public debt provided it can engineer future surpluses to repay the debt service.

The availability of government bonds extends the representative family's portfolio from one to two assets (capital shares and bonds). When the budget constraint of the family is generalized to many periods, it can be shown that bonds affect the present value of consumption in the same way as capital does. A crucial result can be obtained when government budget deficits are internalized by the representative family. This result says that the path of consumption of the representative family is not affected by changes in the method of finance (e.g. a bond financed tax cut) of a given path of government spending. However, it also shows that government spending does affect consumption. A formal discussion of the government budget constraint and its internalization by the private sector is offered in Box III, 5.

Box III. 5
The influence of public finance on the consumption path

The flow government budget constraint can be written as $DB_t=r_tB_t+G_t-T_t$ where G_t-T_t is the primary deficit, r_tB_t the interest payments, and DB_t the bonds issued to finance the excess of outlays over tax revenues. In per capita terms, $Db_t+nb_t=r_tb_t+(g_t-t_t)$. The intertemporal equilibrium level of b(t) is given by b(r-n)=(t-g) which means that the interest bill cannot be indefinitely financed with new borrowing: at some stage primary surpluses are required to finance the debt service.[17] The same idea can be expressed by discounting the future budget surpluses:

$$b_o = \int_s^\infty (t-g)V_t dt = \int_s^\infty t_t V_t dt - \int_s^\infty g_t V_t dt \qquad (7)$$

where $V_t = \exp[-\int_s^x (r-n)dt$ is the factor by which future primary surpluses are discounted to the present time, s.

Equation (7) is the government intertemporal budget constraint, according to which given an initial per capita debt b_o, and a trajectory of government spending g_t, it does not require a balanced budget ($g_t=t_t$) for all t.

The availability of public bonds extends the family's portfolio Z from one to two assets. In per capita terms this portfolio is z=k+b. The family budget constraint can then be reformulated as

$$w_t+r_tz_t-t_t=c_t+Dz_t+nz_t$$

In intertemporal terms this constraint becomes[18]

$$\int_s^\infty c_t V_t dt = k_o + b_o + \int_s^\infty w_t V_t dt - \int_s^\infty t_t V_t dt \qquad (8)$$

The present value of the consumption stream is equal to the initial value of portfolio plus the present value of wages after taxes.

The impact of changes in the method of finance of government spending on the intertemporal budget constraint of the representative family is obtained by substituting from (7) into (8) (Frenkel and Razin, 1987, Blanchard and Fischer, 1989):

$$\int_s^\infty c_t V_t dt = k_o + \int_s^\infty w_t V_t dt - \int_s^\infty g_t V_t dt \qquad (9)$$

The timing of taxes is irrelevant in the decision-making process: in present value, a current reduction of taxes is exactly offset by the anticipated increase in future taxes. Neither deficit finance nor the size of public debt affect the present value of the consumption stream. However, as revealed by the last term on the right-hand side of (9), government spending matters. Since government activities employ resources which otherwise would have been available to the private sector, the path of consumption is affected by the path of government spending.

Some critical assumptions are required to obtain the neutrality of consumption to a change in the timing of taxes collected to finance a given path of government expenditures. First, there is a forward-looking representative family which incorporates the implications of the government budget constraint into her own, recognizing the dependence between government spending, government financed deficits and the implied tax liabilities. Second,

capital markets are perfect, namely, private and public sectors lend and borrow freely at the same terms: the rental rates expected by the private sector from capital and public bonds are equivalent. Third, taxes are not distortionary. And finally, the government meets the condition (transversality condition) according to which an increasing debt cannot be indefinitely served with new debt issues, namely, future primary surpluses are required to finance the debt service.

These reflections are reminiscent of our discussion of the Ricardian equivalence proposition in Section II. The equivalence between borrowing and taxation stated in selected paragraphs of Ricardo's writings reappears here in the context of a neoclassical optimization framework. For the historical perspective of public debt theories the conclusion is clear: in an intertemporal context there is no such a thing as a government deficit, deficit finance is of no consequence, and public debt does not matter.

Having arrived to such strong neutrality results, is there any hope for government discretionary policies under the context of optimal economic growth? Can the intervention of governments in mixed economies be rationalized in the framework of optimal growth models? These are the leading questions in our last subsection on optimal growth models, in which we inquire whether and under which assumptions some room is left for government debt policies in mixed economies.

4. Public debt policies in mixed economies.

Foley, Shell and Sidrauski (1969), and Foley and Sidrauski (1971) tackled the questions addressed in the previous paragraph, in the framework of optimal growth models. First of all these authors designed a portfolio model following Tobin (1961) in which combinations of fiscal and monetary policies affect capital accumulation through changes in the price of capital.[19] At this point, the methodology of optimal growth models is applied as "a way to

make rigorous the prescription of government control in the mixed economy" (Foley et al. 1969, p.699).

There is a crucial difference between the assumptions of this model and the assumptions underlying our previous discussions of the influence of public finance on private consumption. While in the last subsection there is a fully informed forward-looking representative family which integrates the government budget constraint into its own, in the model under discussion the assumption of fully informed agents is considered "very strong" and "unlikely to be met in reality". In the absence of this "strong" assumption, the argument continues, some room is left for discretionary government deficit policies. The position of the authors has to be seen in the context of the mid-1960s when assumptions about static expectations and adaptive expectations were widely used in the economic literature.

The economy under consideration is represented by a two sector neoclassical growth model with two flow variables -consumption and investment- and three stock variables - money, bonds and capital-. Two key assumptions are price flexibility and full employment. The two sector structure provides the key role in the investment process to the cost of capital. Two goals are ascribed to the government: the stabilization of the price level, and the constrained maximization of a welfare functional. The two instruments are fiscal policy and monetary policy, namely, some trajectory for the fiscal deficit and a certain time path for the debt-money ratio.

BOX III. 6
Government intervention in a modern fixed economy

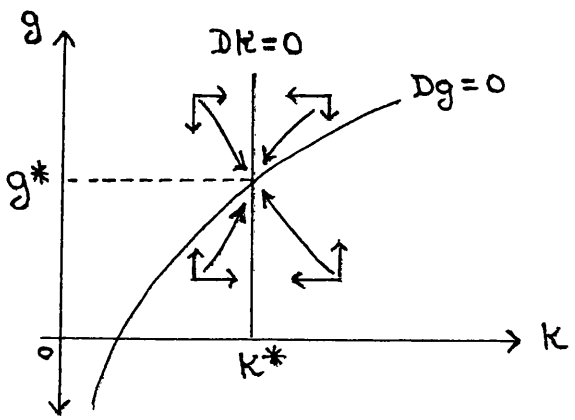
In the two-sector growth model the command optimum is based on the maximization of the intertemporal welfare functional

$$U[q_C(t)]e^{-\partial t}, \qquad \partial>0 \qquad (10)$$

subject to the capital accumulation equation $Dk=q_I(k,p_k)-nk$, and $k(0)=k_0$, where $q_I(\bullet)$ is the per-capita production function of investment goods, q_C represents the output of consumption goods, and p_k the price of capital. The necessary condition for an optimal path is $f'(k^*,p_k^*) = \delta+n$, namely, the same condition obtained for the one-sector model. The government's problem is to choose the time paths for the fiscal deficit d(t), and for the debt money ratio x(t) so as to maximize the welfare functional. If the paths [d*(t)] and [x*(t)] are optimal, they must satisfy the differential equations, $Dk = q_I(k, p_k)-nk$ and $Dg = d(k, p_k)-ng$. The latter equation relates the per capita nominal stock of government debt, g, to the per capita deficit, d; g includes money and bonds (g=m+b).

Given the necessary condition $f'(k^*, p_k^*)=\delta+n$, the long-run optimal capital-labor ratio k* is unique. There is only one value of k that satisfies $q_I(k^*, p_k^*)=nk^*$. Therefore, the Dk=0 locus is a vertical line in the (k, g) plane. As for the Dg=0 line the slope is ambiguous; here, it is depicted under the assumption that an increase in k creates excess supply in the consumption goods market, and therefore a higher deficit is required to restore equilibrium.[20] Figure 3 depicts the Dg=0 and Dk=0 loci. The equilibrium (k*,g*) is unique and globally stable. Global stability has an important implication in this model: a mixed economy with optimal fiscal and monetary policies tends to the steady state equilibrium (g*, k*) regardless of the initial values (k_0, g_0).[21]

FIGURE 3



From the solution to the maximization problem it is obtained that the long-run equilibrium capital-labor ratio k* is only determined by the social rate of time preference and the growth rate of population. Then, the equilibrium price of capital p_k^* is uniquely determined by k*. Given these facts and the government goal of price stability, authorities have to choose a value for the debt-money ratio so as to get an equilibrium p_k in the assets market equivalent to its optimal level p_k^*. Both k* and p_k^* are the signals for producers to determine the division of the national product between consumption goods and

investment goods. Once again, the government has to intervene by using the fiscal deficit so as to assure that consumption goods demand is enough to meet the supply.

Also from the solution to the maximization problem it is concluded that a mixed economy with optimal fiscal and monetary policies converges to the steady state equilibrium regardless of the initial values of capital and debt. This result led the authors to the conclusion that the "burden-of-the-debt" debate of the early 1960s (Section II) had been ill-posed.

In conclusion, under the framework of optimal growth models monetary and fiscal policies are designed to persuade the private sector to produce investment goods at the optimal rate. This rate is not determined by policies but by social preferences, population growth, and technology. Additionally, the steady state value of the stock of debt is independent of the initial condition, which means that the initial stock of debt does not matter at all for the steady state equilibrium and for the optimal growth paths of consumption and investment.

We now move to the next subsection in which our central interest is to make an explicit consideration of the government budget constraint and its implications for capital accumulation and inflation. In monetary models à la Tobin government deficits take the form of transfers to the private sector (transfer payments financed by printing money) but there is not a formal incorporation of the government budget constraint. Although already Foley and Sidrauski (1971) had formally discussed the implications of the government budget constraint on capital accumulation, further theoretical contributions gave budgetary policies a central importance in the determination of both the capital intensity and the rate of inflation. A characteristic of the contributions reviewed below is the importance of institutional factors, particularly of those institutions closely associated with the financing of government activities.

D. The budgetary process, capital accumulation and inflation.

Two analytical directions can be distinguished. The first one is directly associated with the neoclassical growth model, including money, capital and bonds. The second direction posits the budgetary problem as that of optimizing the mix of taxes given a path of government expenditures.

To illustrate the former analytical direction, two examples may be offered. In the first example, Dornbusch (1977) extended the Tobin (1965a) model to include the government budget constraint. The model is similar to that of Foley and Sidrauski (1971), but instead of analyzing the effects of alternative stabilization policies on capital accumulation, the rate of inflation itself and the capital intensity are endogenously determined by budgetary policies. It is shown that the effects of these policies on long-run capital accumulation and inflation are not unambiguous. In particular, it is illustrated how a shift from money financed deficits to bond financed deficits invariably lowers the long-run capital stock but its effects on the inflation rate are indeterminate.

The second example follows Burmeister and Phelps (1971). The immediate precedents of this contribution appear in the money-growth literature. In Tobin (1965a) and Sidrauski (1967b) an increased rate of inflation leads to a higher capital intensity, and the Treasury determines the inflation rate through money-financed transfers to the private sector; Tobin shows how a permanent inflation diverts wealth from public debt to capital stock ("Tobin effects"). From a different standpoint Sidrauski observes how the perverse effects of inflation on consumption lead to capital accumulation. Mundell (1963) arrives to similar conclusions in an analysis of the impacts of inflation on interest rates: an increased inflation derived from the Treasury's deficit spending lowers real money balances and the consequent decline in wealth encourages a higher saving and thus a lower real interest rate ("Mundell effects"). Therefore, from different analytical angles, foreseable changes in the rate of inflation appear to affect capital accumulation.

Given these precedents, Burmeister and Phelps discuss whether there is an inherent relationship between the rate of inflation and the capital intensity of the economy. Further, they question whether the role of public finance is limited to the Treasury's deficit spending. The argument of the contribution states that the capital intensity of the economy is invariant to the rate of inflation if the real public debt is isolated from the rate of inflation; the key of this result is a coordinated compensatory action between the government agencies -the Treasury and the Central Bank-. In conclusion, there is no inherent relationship between inflation rates and capital accumulation, and the precise characteristics of this relationship hinge on institutional factors.

The second analytical direction proposes a public finance case for inflation (Phelps, 1973). Governments face the problem of how to finance public expenditures. Ordinary taxation is one way, the issue of bonds is an alternative route, and the inflation tax is a third way. The latter means that governments derive rents from the monopoly of money issue. This is an institutional fact of public finance with obvious implications for fiscal planning since governments can choose a tax mix between ordinary taxes and the inflation tax.

For given paths of government expenditures and income effects from taxation, an increase in the inflation tax reduces the amount of wage taxes which have to be collected. Under this public finance context the government's problem is the optimal choice of taxes. It is shown how the utility of a representative household is maximized when the marginal utility on consumption is equal to the marginal revenue on ordinary taxes evaluated by real wage incomes, and equal to the marginal revenue on inflation evaluated by the real amount of money holdings. In this framework, liquidity is a good, and then it is optimal to tax it as any other good. Further developments and criticisms of this result in a new-classical framework are discussed in Section VI below.

E. Extensions and links with other sections of this work.

We find two ways to build a bridge between some of the contents of this section and our further empirical and historical expositions. First, we discuss an optimal monetary growth model some of whose essential results were commented in the section. In the context of this model, it is shown how by altering the nature of taxation, changes in public debt have real effects. We also extend the model to examine the double constraint -internal and external- which gravitates on government finances, and discuss its relevance for the study of the Colombian experience. These topics are presented in the appendix to the section.

Second, foreign borrowing is another issue through which our review can be linked to the remainder of this work. Optimal growth models were applied to the problem of optimum foreign borrowing since the 1960s. Eaton and Taylor (1986) and Eaton (1989) summarize their achievements and prospects. We do not directly dwell with those models in the empirical sections of this work, but in the historical sections (particularly in Part IV, Section III) draw on recent literature on international borrowing inspired by the optimum foreign borrowing contributions of the 1960s and 1970s and highly influenced by the international debt problems of the 1980s.

APPENDIX

FINANCIAL STRUCTURE AND THE GOVERNMENT BUDGET CONSTRAINT

To start with, and to facilitate some connections with our case study, we offer a scheme of sample balance sheets which encapsulate the financial structure of the economy.

A. A simple sketch of financial balance sheets.

Sample balance sheets are described in Table 2.

TABLE 2

FINANCIAL MARKETS

Sample Balance Sheets

Selected Items

Rest of the World

F_B^*. Foreign Loans to Banks	International Reserves. Z
F_G^*. Foreign Loans to Government	
F_S^*. Foreign Loans to Private Sector	

Central Bank

Z. International Reserves	Currency. C
GL. Loans to Government	Bank Reserves. BR
PrC. Credit to Private Sector (Rediscounts)	

Commercial Banks

BR. Bank Reserves	Deposits. D
Lpr. Loans to Private Sector	Rediscounts. Prc
	Foreign Loans to Banks. F_B^*

Government

	Central Bank loans, GL
(...)	Internal Debt Bonds, B
	External Public Debt. F_G^*

Private Sector

C. Currency	Bank Loans. Lpr
D. Deposits	Private External Debt. F_S^*
B. Bonds	Wealth, W
P_KK. Capital	

The monetary sector is formed by the central bank and the commercial banks. The private sector embraces firms and public. It is assumed that government, commercial banks and private sector (firms) have access to external credit. At any moment the stock of external debt is given by the accumulated foreign indebtedness of those sectors ($F^*=F_B^*+F_G^*+F_S^*$). The overall net external indebtedness is simply the difference between the stock of external debt and the stock of international reserves (F^*-Z).

The main assets of the central bank are the international reserves in national currency (it is assumed an exchange rate equal to 1), the loans extended by the central bank to the government, and the rediscounts granted to commercial banks. These three assets form the monetary base ($M=Z+GL+PrC$). Later we will separate out the monetary base issued in the form of government loans ($Mg=GL$) from other issues, which for simplicity we will ascribe to the private sector ($Mp=Z+PrC$). The demand for base money is divided between deposit reserves and cash. The government finances its primary deficit and the debt service by changing the stocks of external public debt, loans granted by the central bank to the government, and public bonds (B) sold to the domestic private sector. Wealth is the sum of primary assets in the system; recalling that the monetary base M is the sum of the assets of the central bank, wealth can be written as $W=P_kK+M+B$. As far as sectors engage in external indebtedness, a net concept of wealth (NW) seems more appropriate, namely $NW=(P_kK-F^*)+M+B$.

B. Individual behaviour and the government budget constraint.

We follow the framework due to Sidrauski (1967a). The model is modified in two ways, by introducing taxation on factor payments and also by considering government intervention through fiscal deficits. We explicitly introduce the government budget constraint since in the original framework only net lump sum government transfers are considered.

1. Optimization and steady-state properties.

a. A Sidrauski type model

The basic economic unit in the model is the representative family. The utility function is

$$\int_0^\infty u(c_t, m_t)e^{-jt}dt \qquad (11)$$

where c_t and m_t stand for real per-capita consumption and cash balances respectively, and $j>0$ is the subjective rate of time preference. The economic unit has access to a production function which is linear homogeneous in its two factors, capital and labour, and therefore can be written as $y_t=f(k_t)$ where y_t is the real homogeneous per capita output and k_t the capital-labor ratio.

Two constraints affect the behaviour of the economic unit. The stock constraint requires that non-human wealth (A_t) be allocated between capital and real cash balances. In per capita terms,

$$a_t = k_t + m_t \qquad (12)$$

The flow constraint requires that disposable income be equal to real consumption plus real saving. Considering the existence of net real lump-sum transfers from the government to the representative family, V_t, the flow constraint can be written as follows:

$$[y_t+v_t]-c_t = s_t = DK_t/L + DM_t/PL$$

or alternatively as

$$[y_t+v_t]-c_t = s_t = [Dk_t+nk_t]+[Dm_t+m_t(\pi+n)]$$

where $[y_t+v_t]$ is the per capita disposable income and s_t the per capita saving. The right-hand side on both equations show how the flow of real saving per capita is allocated between capital accumulation and additional holdings of real money balances.[22] At this point we introduce our first important modification to impose taxation on factor payments (τy), instead of lump-sum taxation. The left-hand side of the flow constraint can then be written as $\{[y_t-\tau y_t]+v_t\}-c_t$, where v_t is now a gross lump-sum transfer financed with tax revenues. Given the definition of per capita wealth in (12), the flow constraint can be written as (where time indexes have been eliminated)

$$(y-\tau y)+v-c-m(\pi+n)-nk = Dk+Dm= Da \qquad (13)$$

Under competitive equilibrium the wage rate (w) and the interest rate (r) are given by the profit-maximizing conditions, $w=f(k)-kf'(k)$, and $f'(k)=r$. In distributional terms gross real income can be rewritten as $f(k)=w+rk$, and therefore the flow constraint can be expressed as

$$(w+rk)-\tau(w+rk)+v-c-m(\pi+n)-nk=Da \qquad (13')$$

which is conveniently rearranged as follows

$$[w+a(r-n)]-\tau[w+rk]+v-[c+m(\pi+r)]=Da \qquad (14)$$

or equivalently as

$$\{(w-\tau w)+a[r(1-\tau)-n]\}+v-\{c+m[\pi+r(1-\tau)]\}=Da \qquad (14')$$

In (14') the first term in braces represents disposable income, and the second one full consumption where the concept of real consumption is augmented by the interest foregone by holding money instead of capital. These financial losses are interpreted as the implicit consumption of money services (Blanchard and Fischer, 1989).

The problem of the representative family is to maximize the objective functional (11) given the stock constraint (12), the flow constraint (14') and an initial condition for the per-capita value of wealth, $a(t_0)=a_0$. Both variables c(t) and m(t) in the objective functional are subject to the discretionary choice of the representative family and therefore they are the control variables; the variable a(t) indicates the state of the per capita stock of wealth at every point of time, and therefore plays the role of state variable. In order to solve this control problem we use the maximum principle technique, which involves the concepts of Hamiltonian function and costate variable. The Hamiltonian function $H(t,c,m,a,\lambda)$ where t is time and λ the costate variable, is defined as

$$H=\{u(c,m)+\lambda[(w-\tau w)+a[r(1-\tau)-n]+v-c-m[\pi+r(1-\tau)]\}\exp(-jt)$$

First-order conditions for maximization of H with respect to the control variables c and m are

$$u_c(c,m)=\lambda \qquad (15)$$

$$u_m(c,m)=\lambda[\pi+r(1-\tau)] \qquad (16)$$

$$-D\lambda/\lambda=[r(1-\tau)-n]-j \qquad (17)$$

$$\lim_{t\to\infty} a_t\lambda_t\exp[-jt]=0 \qquad (18)$$

The optimality conditions (15) and (16) are obtained from the first order derivatives of H with respect to c and m respectively. Accordingly, the costate variable is the marginal utility of consumption, but it is also related to the marginal utility on real money balances. Altogether, they imply that the marginal rate of substitution between consumption and real cash balances u_m/u_c is given by the aftertax nominal interest rate. Equation (17) is the equation of motion of the costate variable. As seen, as long as the aftertax return on capital net of population growth exceeds the rate of time preference, the marginal utility on per capita consumption must be falling and thus per capita consumption must be rising; this is a necessary condition which is satisfied on the optimal path, and known in the growth literature as the Keynes-Ramsey rule.[23] Finally, the transversality condition (18) rules out paths that satisfy (15)-(17) but which imply that for instance the representative family accumulates assets (a) at a rate that endangers its consumption plans. Overall, the representative family chooses the optimal admissible control path for c(t) and m(t) which along with the associated optimal admissible state path a(t) and costate path $\lambda(t)$ will optimize the objective functional over an infinite horizon satisfying the transversality condition.

b. Budget constraints: the government and the economy

At this point we can explicitly introduce the influence of governments through fiscal deficits (G-T), instead of the lump-sum transfers considered before. A simple formulation of the government budget constraint is G-T+rB=dB, where dB represents the change in the real stock of government bonds sold to the representative family to finance the excess of outlays (G+rB) over tax revenues (T). In per capita terms the budget constraint is $(g-\tau)+rb=Db+nb$. Money issues constitute an alternative way of government deficits financing. Then, a more complete expression of the government budget constraint is

$$g-\tau(w+rk)=Db-(r-n)b+Dm+m(\pi+n) \qquad (19)$$

which means that in the steady state the excess of government outlays over tax receipts is financed by the real per capita stock of money growing at the rate $(\pi+n)$.

The presence of government bonds modifies our initial stock constraint which now becomes

$$a=k+m+b \qquad (20)$$

Bonds are introduced in the portfolio of the representative family paying an interest rate equal to the rental rate on capital r, and since capital and bonds are perfect substitutes, bonds are also taxed with the tax rate on factor payments. After making these changes in the flow constraint (13), and including the redefined concept of (a) given in (20) and consequently the specification Da=Dk+Dm+Db, the family's budget constraint remains as in (14') (excepting the term v which is no longer in consideration). This upshot means that the introduction of government bonds does not affect the results obtained in equations (15) to (17) associated with the optimal control path and the optimal costate path.[24] The family's budget constraint and the government's budget constraint integrate the following dynamic system

$$Da= w+a(r-n)-\tau(w+rk+rb)-c-m(\pi+r) \qquad (21)$$

$$Db= g-\tau(w+rk+rb)+(r-n)b-Dm-m(\pi+n) \qquad (22)$$

Equations (15) through (18) and equation (21) thoroughly condense the behaviour of the representative family given expectations about government policies as reflected in the taxation of factor payments and the sources of financing of fiscal deficits. Once we add equation (22) giving the evolution of government bonds, the whole group of equations determine the movement of the system.

The consolidated budget constraint relevant for the economy as a whole is obtained by combining the household budget constraint (21) with the government budget constraint (22), as follows:

$$Da=Dk+Dm+Db= w+a(r-n)-c-m(\pi+r)+Db+Dm+m(\pi+n)-(r-n)b-g$$

and therefore,

$$Dk=w+k(r-n)-c-g$$

which in the steady state becomes

$$w+k(r-n)=c+g \qquad (23)$$

As seen, this overall budget constraint is the per capita national income identity, f(k)=c+g. Because of this interdependence of the three constraints, only two are required to describe any equilibrium.

2. Steady state properties

Using equations (15) through (17), the profit-maximization condition f'(k)=r, the overall budget identity (23), and the government budget constraint (19), we now interpret properties of steady-states.

$$\begin{aligned} &u_m(c,m)=u_c(c,m)\,[\pi+r(1-\tau)] \\ &j+n=r(1-\tau) \\ &f'(k)=r \\ &f(k)=c+g \\ &g-\tau f(k)+(r-n)b=m(\pi+n) \end{aligned} \qquad (24)$$

Under the assumption that the government specifies paths for M (and then for π), for g, and for τ, these five relations determine the steady-state values of c, m, r, k, and b.

There is a crucial aspect in the system just exposed: the values of c, m, r, and k, are affected by the government's choice of (τ), and since (τ) and (b) are related by the last equation, changes in (b) will affect the values of c, m, r, and k. This result unambiguously depends on the existence of income taxation. Otherwise, as in the case of lump-sum taxation, changes in (b) will not alter other variables in the system.[25]

C. Application to the case study.

In the balancesheet of the central bank we distinguished changes in the monetary base due to loans to the government from changes due to other sources, then indicating that the financing of government deficits is only a fraction of the total issue of base money. On the contrary, our differential equations (21) and (22) seem to imply that money creation exclusively hinges on the portion of budget deficits which is not financed by bonds. We rescue our previous definition $M=M_p+M_g$ which in real per capita terms is $m=m_p+m_g$, where (m_g) stands for the money creation due to government deficits and (m_p) refers to the rest of money sources which can be ascribed to the private sector. Then, we reformulate the government budget constraint in (22) as follows:

$$Db=g-\tau(w+rk+rb)+(r-n)b-Dm_g-m_g(\pi+n) \qquad (25)$$

The consolidated budget constraint which combines (21) and (25) is

$$w+(k+m_p)(r-n)=[c+m_p(\pi+r)]+(Dk+Dm_p)+g \qquad (26)$$

The left-hand side is the per capita national income divided into wage payments and capital returns. The right-hand side shows full consumption in the first term, investment in the second pair of brackets, and finally government expenditure. Why is m_p associated with k on the left-hand side, and Dm_p associated with Dk on the right-hand side? Based on our simplified scheme of balancesheets, Dm_p can be interpreted as changes in private sector working capital, part of which could be originated in bank loans rediscounted in the central bank, and the rest on external trade operations, as we see next.

From our simplified central bank balancesheet we know that Mp=Z+PrC, which in per capita terms is m_p=z+prc. Then we rewrite the per capita national income identity in (26) as follows:

$$[w+(k+m_p)(r-n)]-\{[c+m_p(\pi+r)]+[Dk+Dprc]+g\} = Dz \qquad (27)$$

where income (in brackets) minus absorption (in braces) equals the accumulation of international reserves. Equation (27) gives the law of motion of international reserves.

At this point we can assume that only the government has access to external indebtedness, and try a new link between the balancesheets and the optimizing model by extending the government budget constraint to include external debt. The new version of equation (22) is:

$$Db= g-\tau(w+rk+rb)+(r-n)b-Dm_g-m_g(\pi+n)+(r^*-n)b_f-Db_f \qquad (28)$$

where b_f is the per capita external debt of the government and r* the foreign interest rate. For simplicity it can be assumed that r=r*, though this restriction does not distinctly alter the results. The overall constraint which combines (21) and (28) is

$$\{w+[(k-b_f)+m_p](r-n)\}-\{[c+m_p(\pi+r)]+[Dk+Dprc]+g\}=[Dz-Db_f] \qquad (29)$$

which shows the accumulation of net international reserves as equal to income net of the external debt service (first pair of braces), minus absorption (second pair of braces).[26]

The double constraint faced by government finances is revealed after rewriting (28):

$$\{[\tau(w+rk)-g]-(r-n)b\}+\{[Dm_g+m_g(\pi+n)]+Db\}=[(r-n)b_f-Db_f] \qquad (28')$$

The only term on the right-hand side are the net repayment to the creditors given by the difference between debt service payments and changes in external financing. On the left-hand side the sources and uses of government internal funds are brought out. The equation shows that the net transfer of resources abroad has its internal counterpart in a higher budget surplus (through increased taxation and/or reduced primary government expenditures), and/or an increased internal indebtedness with the public or the central bank.

We can now interpret (28') in the context of the steady state equations in (24) as follows:

$$\begin{aligned} u_m(c,m) &= u_c(c,m)[\pi+r(1-\tau)] \\ j+n &= r(1-\tau) \\ f'(k) &= r \\ f(k)^\circ &= c^\circ+g \quad [27] \\ [\tau f(k)-g]-(r-n)b+m_g(\pi+n) &= (r-n)b_f \end{aligned} \qquad (24')$$

The right-hand side of the last equation of (24') shows the interest repayments to the creditors in the steady state, while the first pair of brackets on the left-hand side shows the government surplus that ceteris paribus has to be generated to finance those repayments. Under the assumption that the paths of M, Mg, g,and τ are specified by the government, and the path of external financing is determined by external creditors, the five equations in

(24') determine the steady state values of c, m, r, k and b.[28] For a given steady-state level of the external debt, a change in the internal debt is transmitted to the rest of the economy through its link with the tax rate in the last equation.

How can we interpret these results in the light of our discussion of the Colombian experience with public debt in Part II and Part IV?

First, as assumed in (24'), foreign financing can be considered exogenously determined. The most outstanding periods of access of the country to external credit have coincided with lending booms in foreign capital markets.

Second, according to (28') the transfer to foreign creditors is financed by budget surpluses and/or increases of the internal debt. In our historical discussions we will mention episodes which illustrate the substitution of internal for external debt. However, the internal public debt has to be studied in a broader perspective where institutional arrangements play a key role, as seen next.

Third, in historical perspective the internal market for government bonds has been small, and therefore its capability to finance potential budget deficits has been limited. Additionally, the access of the government to central bank loans has historically been restricted. In this context the most important changes of the internal public debt have been associated with severe shocks on the economy, originated most of the time on the external sector. In these extreme events the central bank has been authorized to offer temporary and extraordinary loans to the government. These extraordinary changes are then to be seen via (m_g) rather than through (b) in (28').

Fourth, in our case study the extraordinary increases of the internal public debt have not always been associated with the government budget constraint, as expected from an identity like (28'). As the historical documentation shows, in different occasions and after grave external shocks, the government accepted to finance private losses, or to acquire private assets, as part of rescue packages financed with increases in the internal public debt.

SECTION III

NOTES

1. The warranted rate was given a crucial meaning in a private economy in which investors' expectations play a critical role. In a context in which Keynesian "animal spirits" affect the course of economic growth, the warranted rate will cause the entrepreneurial expectations to be fulfilled. In this sense, Harrod applied to the analysis of equilibrium growth in a Keynesian framework what in the 1970s would be called a rational expectations equilibrium by the new-classical macroeconomics (Hahn, 1987).

2. Instead of periods in which investment demand would be indefinitely large followed by periods in which investors would not undertake new projects, neoclassical models stressed the idea of sustained growth. Growth would be affected by business cycles but these alterations would seem to be self-bounding (Solow, 1987).

3. One example is provided by Solow (1956):
"It may take deliberate action to maintain full employment. But the multiplicity of routes to full employment, via tax, expenditure, and monetary policies, leaves the nation some leeway to choose whether it wants high employment with relatively heavily capital formation, low consumption, rapid growth or the reverse of some mixture. I do not mean to suggest that this kind of policy (for example: cheap money and budget surplus) can be carried on without serious strains. But one of the advantages of this more flexible model of growth is that it provides a theoretical counterpart to these practical possibilities." (p.93)

4. Solow ([1969], 1988) and Sidrauski (1967b) specify equations of capital accumulation of the form $Dk=sf(k)-nk-(1-s)(\theta-\pi)m$ where the last term gives the net absorption of private saving in the form of real balances, otherwise devoted to a higher capital accumulation.

5. The stationary solution for (1) and (2) in terms of b is given by $b^*=[sf(k^*)-nk^*]/(1-s)n$. For $Db=\theta$, it is seen that $Dk=0$ if $sf(k)=nk$. This is the Solow solution for real growth models.

6. Hahn criticized the neoclassical process of divergence from equilibrium: "...there is no explanation of why the price of money is changing -it is changing because we demand asset equilibrium-" ([1969], 1984, p.207).

7. Based on Cagan (1956) scheme of adaptive expectations, Sidrauski (1967b) showed that for small enough values of the expectations adjustment coefficient the monetary growth model is globally stable. If the Cagan's stability condition is not satisfied, saddlepoint instability is produced: the economy would converge to equilibrium only if it started from a "right position", namely, if the initial position lies along stable manifolds; otherwise the system would produce runaway inflation or deflation.

So as to get stability, authors like Tobin (1965), Johnson (1966) and Stein (1966) considered a simple function of price expectations determined by the steady state rate of price change ($\pi^*=\theta-n$). Levhary and Patinkin (1968), considered a constant rate of price change maintained by authorities, even out of the steady state, by continuous adjustments in the rate of monetary expansion.

8. Having overcome the doubts about stability of monetary growth models, the uniqueness of the equilibrium path has been a controversial and as yet inconclusive point. Calvo (1979), Orphanides and Solow (1990)

9. It can also be said that welfare is affected since money is one of the arguments of the utility function used by Sidrauski (1967a).

10. The superneutrality result heavily depends on the specification of the production and the utility functions. In the superneutrality model these functions are $y=f(k)$ and $U=U(c, m)$, respectively. If m enters the production function instead of entering the utility function, superneutrality no longer holds (Levhary and Patinkin, 1968). Similarly, when leisure is regarded as an additional argument of the utility function, changes in the inflation rate happen to affect the supply of labor, and then superneutrality no longer obtains; Brock (1974) explains that even if the ratios K/L and Y/L are not influenced by changes in the inflation rate the amounts of labour per person and output per person will be affected.

11. "Had not these events [the great depression] intervened and deflected economists from following up Ramsey's powerful ideas, the optimal growth literature of the sixties might and indeed could have been written in the thirties" (Koopmans, 1967, p.3)

12. Ramsey postulated an integral over time of the social utility function depending on the consumption flow. By following this procedure society would maximize the attainable utility (or Bliss in Ramsey terms). Accordingly, to answer the question of how much income to save, society would save enough to reach the Bliss or to approach to it indefinitely.

13. An increasing and concave utility function indicates that a generation which expects a low consumption level will receive a greater support in his aspiration for more consumption than a generation with high expected levels of consumption.

14. "The formulae [Optimality criteria and assumptions about population and production function] by which we have been trying to capture these phenomena bear the marks of their intellectual parentage in the classical immutable laws of the physical sciences ... they lack the flexibility that is an essential trait of all human response to a changing environmment". Koopmans (1967, p.11)

15. The instantaneous elasticity of substitution is $\mu(c_t) = -cU'(c_t)/U''(c_t)$. For a utility function $U=U[c(t)]$, where $U'>0$ and $U''<0$, $\mu(c)$ is a measure of the curvature of the utility function. The more linear is the utility function, the larger is the elasticity of substitution, and then, the larger is Dc/c for a given value of $[f'(k)-n-\delta]$.

16. Equation (5') is the <u>modified</u> golden rule relationship; instead of the condition $f'(k)=n$ which gives the capital stock that maximizes the steady state per capita consumption, (5') implies that a positive rate of time preference reduces the capital stock below the golden rule level. Through $\delta>0$ the representative family states that she does not consider optimal the reduction of current consumption in order to attain the golden rule level of capital intensity.

17. The solution to the differential equation $db/dt + (n-r)b = (g-\tau)$ is given by

$b(t) = e^{-\int(n-r)dt}[b_0 + \int(g-\tau)e^{\int(n-r)dt}dt]$ where b_0 is the initial condition. The term $[e^{-\int(n-r)dt}b_0]$ gives the deviations from equilibrium. For b(t) to be dynamically stable this term must approach zero as t tends to infinity. When this happens the intertemporal equilibrium level is given by $b=(\tau-g)/(r-n)$.

18. For the differential equation $w_t-c_t-\tau_t=dz/dt + (n-r)z$ the intertemporal equilibrium level is given by $z=c_t-(w_t-\tau_t)/(r-n)$. By integrating from s and using the discount factor V_t,

$\int_s^\infty c_t V_t dt = z_0 + \int_s^\infty w_t V_t dt - \int_s^\infty \tau_t V_t dt.$

19. A number of issues were reexamined with this portfolio model. For instance, during the "burden of the debt" controversy of the 1960s it was affirmed that the extinction of public debt incentives growth in the short run, and increases the long-run capital stock. In their full

employment model, Foley and Sidrauski (1971) showed that the net effect of a debt reduction leads to ambiguous results both in the short and in the long run, depending on the particular policies implemented by the government to offset the deflationary pressures of the reduction in the stock of debt.

20. This assumption implies $\delta d/\delta k > 0$, and corresponds to the traditional assumption according to which consumption is proportional to income and not directly related to wealth. When these wealth effects are allowed to affect consumption, increases in k create excess demand, and for equilibrium the government deficit must fall. This case is described by $\delta d/\delta k < 0$.

21. The steady state value of debt (g*) may be positive, zero or negative. It depends on whether there exists excess supply or demand in the consumption goods market when the deficit is zero. If at the long run equilibrium with a zero deficit there is an excess demand the government will have to run a surplus and the economy will end up with a negative debt.

22. Sidrauski explicitly allowed for capital depreciation. This concept is not considered here only for simplicity.

23. The equation of motion for λ is formally obtained as $D\lambda = -\delta H/\delta a$. There is an additional maximum principle condition given by $Da = \delta H/\delta \lambda$. This is, however, a restatement of the equation of motion of the state variable a(t) given in equation (21), in the appendix.

24. Bonds are part of wealth without any neutralizing present value of tax liabilities. Additionally, this model allows the debt service to be financed by either money and/or new bond issues, and not exclusively by taxes.

25. In the original Sidrauski model the interest rate is determined by the rate of time preference adjusted for population growth, r=j+n. In this model, it is the aftertax interest rate r(1-t) which equals j+n, and thus the steady state capital stock is lower than in the original model.

26. The change in the gross value of international reserves equals the trade balance plus the change in external financing net of debt service.

27. The fourth of equations (24') is the overall budget identity where $f(k)^{\circ} = w + [(k - b_f) + m_p](r - n)$ and $c^{\circ} = c + m_p(\pi + r)$.

28. In an open economy the equation $j+n=r(1-\tau)$ means that consumption per capita is constant. If for instance, n=0 and $j<r(1-\tau)$, consumption per capita and wealth per capita increase over time, which also requires that external debt per capita falls over time. In our case, given an initial level of per capita foreign debt, the constancy of consumption per capita over time maintains that level of initial debt.

SECTION IV

Public debt and capital accumulation: the life-cycle view

Introduction

By the 1950s consumption theory was no longer limited to the Keynesian model and early studies of the long-run consumption function carried out during the 1940s. Based on a choice-theoretic framework, the conventional wisdom was challenged by both the permanent-income hypothesis (PIH) due to Friedman (1957), and the life-cycle hypothesis (LCH) originally developed by Modigliani and Brumberg in 1954 (Modigliani,1985). In PIH life is infinite and a crucial distinction is made between permanent income and transitory income. PIH is concerned about the effects of transitory incomes on saving. In LCH life is finite, and income and consumption are affected not only by random shocks as in PIH but by the life cycle. LCH is concerned with systematic life-cycle variations in consumption and their implications for aggregate saving and wealth. In this section the question is how private savings and capital accumulation are affected by the presence of public debt in the context of life-cycle models.

In subsection A we look back to the 1960s discussions of how private savings are affected by alternative government financial policies in an aggregate full employment model. Following Modigliani (1961) the crucial criterion to judge about financial policies is their effect on capital accumulation and not whether they are financed by public debt. In subsection B the discussion is continued by using overlapping generations models. It is shown how public debt -internal and external- affect capital accumulation, and how public debt issues may be Pareto-improving either by absorbing excessive savings over the golden rule capital

accumulation level, or by reducing the risk associated with limited intergenerational insurance.

At the end of the section the simple two period OLG model is extended in two ways: first, a multiperiod OLG model allows the comparison of short- versus long-run effects of fiscal policies; second, a continuous time OLG model makes possible to confront the effects of bond-financed deficits obtained in an LCH framework with the corresponding effects obtained in the infinite horizon models discussed in Section III. The continuous time model preserves the notion of finite horizons which is essential in LCH; however, the constant instantaneous probability of death which is assumed to facilitate the aggregation over individuals is independent of age, and therefore the characteristic life-cycle patterns of saving and wealth vanish.

Finally, in section E we highlight the connections of this section with other sections of this work. We consider the implications of the LCH framework for policy prescription and discuss their relevance for our econometric estimations in Part III.

A. Basic aggregate models.

An outstanding assumption of the standard neoclassical growth model is that savings constitute a constant proportion of income, in contrast with the neoclassical choice-theoretic approach where savings are explained by optimizing choices of households. Such an assumption followed the pioneer studies of the long-run consumption function by Kuznets in the 1940s which concluded that the saving ratio had not considerably changed in the previous hundred years in spite of the substantial increase in incomes per capita.

In the early 1950s Modigliani and Brumberg provided the theoretical basis of the Life Cycle Hypothesis (LCH) of saving according to which the regularities found in the preceding studies could be explained within a framework of utility-maximizing consumers who

optimally allocate their resources to consumption along their lives. A crucial insight was that in allocating consumption at any age, consumers' decisions depend on their life resources and not only on their current incomes. Under the basic assumption of households' finite life the focus of attention was the change of income over the life cycle created by the stages of economic activity and retirement (Modigliani, 1985).

Modigliani (1961) was the first systematic discussion of public debt in the context of life-cycle models, where the main concern was the comparative long-run effects of debt and tax financing in a fully employed stationary economy. It was shown how individual balancesheets and the prospects of consumption and saving are affected by government expenditures increases depending on the method of financing. If financed by debt, individuals will reorganize their portfolios by substituting public bonds for equity, which means that public debt crowds out private investment but the aggregate worth of the private sector is unaffected; as a result the capital fall is permanent as long as the debt issuance remains outstanding.[1] If financed by taxation, the reduction of capital is a temporary phenomenon which depends on the precise path of reduction of consumption over the life time of the taxed individuals.[2]

A catalogue of cases is analyzed in this framework. For instance, when internal debt is used to augment the stock of government capital there is a recomposition of private portfolios but the total amount of physical capital is not affected; again public debt crowds-out private investment but without dismantling capital formed in the past. If on the other hand the increase in the government capital formation is financed by taxation, there will be a temporary reduction in the private stock of capital, but in the long run the aggregate private net worth will be reestablished and the total capital stock enlarged in the magnitude of the government investment. These examples show how the same public investment policy will result in different magnitudes of the capital stock left to future generations depending on the method of finance.[3]

Atkinson and Stiglitz (1989) explored Modigliani's contribution in the context of an explicit general equilibrium model using saving relationships of the Kaldorian type (where there is a propensity to save out of profits and another one out of wages). It was shown that Modigliani's conclusion that a unit of public debt crowds out in the margin a unit of private capital corresponds to the particular case in which the economy is on its golden rule path. But if the capital stock is below that level, the displacement of private capital is higher than in Modigliani's illustration; this is so because a marginal productivity of capital above the golden rule level causes interest payments (f'b) to be higher than the new debt issues (nb).[4]

More importantly, the authors indicate that the effects of the national debt cannot be discussed "without specifying other accompanying adjustments in fiscal policy" (p. 253). The relevant point is that the tax structure matters, since the impact of public debt appears to depend on the nature of the taxes used to finance the debt service. This development will reappear later in this section.[5]

The LCH framework found a propitious vehicle of development in the overlapping generations models (OLG) since the late 1950s. These models consider economies with an infinite horizon but short-lived and overlapping individuals; at each date these open-ended future economies consist of consumers of different ages interacting with each other. Public finance has been a fertile camp of application of OLG models in different areas such as public debt, social security and optimal taxation. We now concentrate on outstanding applications of OLG models to the study of public debt. We start with a brief allusion to the Samuelson's consumption loan model, before outlining a simple OLG framework where the central reference is Diamond (1965). Further we discuss contributions based on multiperiod and continuous time OLG models.

B. Overlapping generations models.

In a pathbreaking contribution, Samuelson (1958) offers a general equilibrium solution to the determination of interest rates in a dynamic economic system with no capital, and shows how the existence of money leads to a Pareto optimal allocation of resources across generations. By using a simple model of two generations -the young and the old- it is shown how in the absence of money there might occur the paradoxical situation in which generations do not cooperate: while the old would be willing to borrow from the young to increase their consumption, the young would not be willing to lend to the old since the latter generation would not be able to repay any loans. Samuelson introduces the "social contrivance" of money to solve the paradox of no cooperation: given the existence of money, the old could consume more by trading with the young, and the young would accept the money because they expect the next generations to replicate this behaviour in the context of an economy which goes on forever. As Samuelson puts it: "Everybody ends better off".[6]

1. A basic OLG model for public debt analysis.

Diamond (1965) discusses the effects of public debt on real economic activity in an OLG model. The central aim is to investigate long-run competitive equilibrium in a growth model and study the effects of public debt -internal and external- on that equilibrium. This pioneer essay was strongly influenced by current debates in the mid-1960s: the aggregate neoclassical growth model and the golden rule path of capital accumulation; the central planner optimal growth model in which resources are allocated between capital accumulation and consumption according to a social welfare function; the utility-maximizing approach as a basic foundation of macroeconomic analysis; and the burden of the debt controversy of the early 1960s.

The starting point is a modified version of the Samuelson (1958) consumption loans model which allows for the presence of capital. The outcome is an OLG model in which the younger generation makes a positive saving and provides for its retirement period by financing entrepreneurial activities. Regarding the long-run real effects of public debt the

central reference is Modigliani (1961), although explicitly adding the effects of taxes levied to finance debt interest payments, a factor which is absent in Modigliani (1961). As in Samuelson (1958) the economy goes on forever, and generations overlap ad infinitum. Technology is constant and represented by a constant returns to scale aggregate production function, and labor is supplied exogenously at a fixed growth rate.

In a centrally planned framework authorities have command over the capital stock and output. The latter is divided between current consumption and the capital stock for the ensuing period.[7] The optimal capital intensity (k*) which gives the maximum consumption satisfies the golden rule; if authorities choose a higher capital labor ratio (k>k*) the solution is inefficient, and therefore a reduction in the planned capital intensiveness (from k to k*) will increase the consumption levels of the overlapping generations.[8]

In a competitive context firms maximize profits at each point in time. The supply of capital is determined by the savings of the younger generation. Individual savings are given by the function[9]

$$s_t=s(w_t,\ r_{t+1}) \qquad 0<s_w<1,\ s_r>0 \text{ or } s_r<0$$

By assuming that all individuals are identical, the saving of the working generation is $L_t s(w_t, r_{t+1})$, and then the capital available to society in period t+1 is[10] $K_{t+1}=L_t s(w_t, r_{t+1})$ which in per-capita terms gives

$$(1+n)k_{t+1}=s(w_t,\ r_{t+1}) \qquad (1)$$

This is the capital accumulation equation for a competitive economy. Based on the foregoing framework the role of public debt may be devised by asking how the long-run equilibrium and welfare of an hypothetical competitive economy are affected by the existence of public debt. Although Diamond (1965) is still the main reference, the discussion incorporates more recent developments. Finally we mention a topic arisen as a criticism of Diamond's article in

the 1960s which has received attention in recent controversies: the equivalence between public debt and tax-transfer schemes.

a. The efficiency issue in the market economy

As seen before, an overaccumulation of capital in the centrally planned economy is inefficient. The question is whether the competitive solution is immune to that problem. By obtaining the possible steady-state consumption levels of a generation in her productive and retirement periods, and comparing them with the individual's marginal rate of substitution in competitive equilibrium, it is shown that the competitive solution may be dynamically inefficient. A formal derivation of this result is offered in Box IV, 1. Now we ask to what extent the competitive solution is affected by the existence of public debt both external and internal.

BOX IV. 1

Can the equilibrium competitive solution be inefficient?

The working generation (period 1) consumes the difference between her wage and the amount lent in the capital market. In her retirement (period 2) this generation consumes her savings accrued by the interest rate. The per-capita equations for consumption (e^i_t) for the two periods are:

$$e^1_t = w_t - s_t(w_t, r_{t+1}) \qquad (2)$$
$$e^2_{t+1} = (1+r_{t+1}) s_t(w_t, r_{t+1})$$

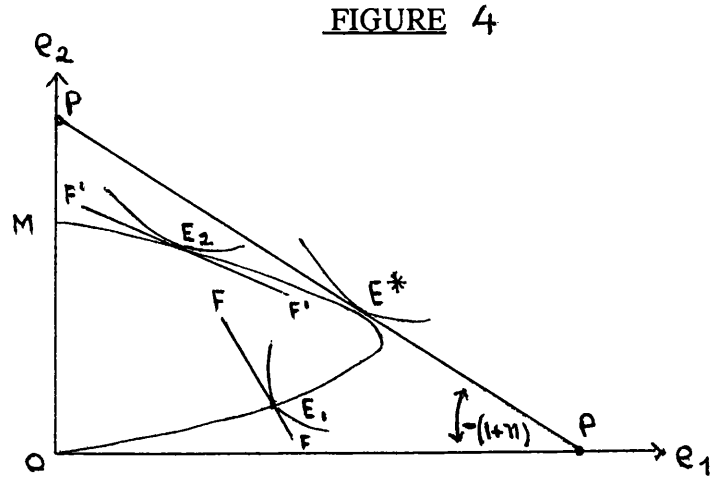
By substituting $s_t(\bullet)$ from the capital accumulation equation (1) into (2) the steady state consumption values are

$$e^1 = w - (1+n)k \qquad (2')$$
$$e^2 = (1+r)(1+n)k$$

By varying k it is possible to obtain the locus of stationary values of consumption. This is drawn for the Cobb-Douglas case (Ihori, 1978; Buiter, 1981) in Figure 4. k increases monotonically and r falls as one moves from 0 to M. The line PP is the central planner steady-state consumption possibility locus with slope -(1+n). The central planner chooses a capital-labor ratio such that f'(k)=n. This is the golden rule represented by point E*. In the competitive economy the utility maximization criterion implies that consumption be allocated according to $Ue^1 = (1+r)Ue^2$ (note 8). Then the marginal rate of substitution is $de^2/de^1 = Ue^1/Ue^2 = -(1+r)$.

Three examples of competitive equilibrium are given by drawing lines with slope -(1+r). At point E_1 an indifference curve is tangent to the line FF for which r>n, and at point E_2 the equilibrium corresponds to a case in which r<n; only when the marginal rate of substitution happens to be equal to -(1+n) the competitive solution coincides with the golden rule at E*. The competitive solution is dynamically inefficient at points like E_2 because any lower k that does not lie below E* can assure a higher path of per-capita consumption.[11] In conclusion, the competitive solution may be dynamically inefficient.[12]

FIGURE 4



b. Public debt effects on the long-run competitive solution.

The long-run effects of public debt on the competitive solution result from the taxes required to finance interest payments.[13] As noted above, this "tax channel" was absent in the

aggregate model of Modigliani (1961). Taxes do not only affect the lifetime consumption of taxpayers, but negatively influence saving and capital accumulation by reducing disposable income. An additional effect is exclusively brought about by new issues of internal debt: the substitution of public bonds for titles on real capital on the demand side of the capital market. The existence of any kind of government debt -either external (g_1), internal (g_2), or a combination of both- reduces the younger generation's net wages after taxes, and therefore affects the capital accumulation equation. These effects can be seen by comparing equation (1) with the following two equations:

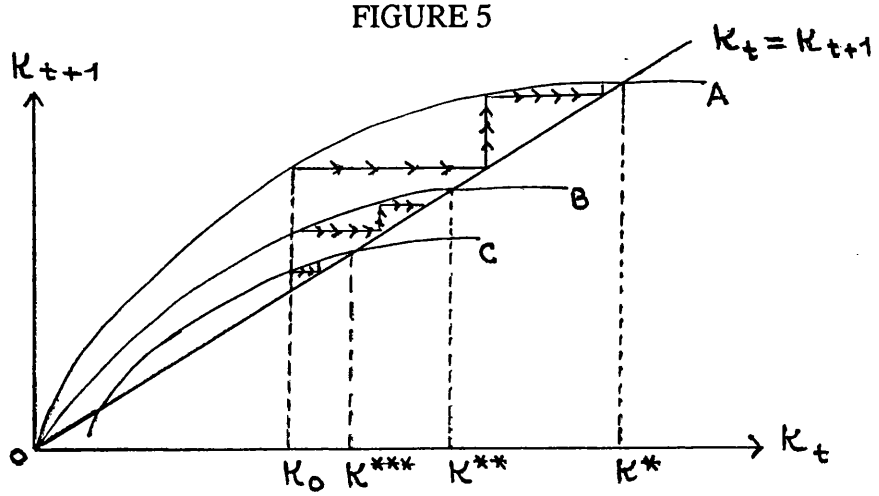
$$k_{t+1} = s[w_t-(r_t-n)g_1,\ r_{t+1}]/1+n \qquad (3)$$

$$k_{t+1} = s\{[w_t-(r_t-n)(g_1+g_2),\ r_{t+1}]/1+n\ -g_2\} \qquad (4)$$

The difference (r_t-n) denotes the taxes required to finance the part of the interest cost not covered by additional public debt issues. Equation (3) shows how the taxation required to finance part of the external debt service reduces disposable wages, then affecting negatively capital accumulation. Equation (4) which involves a mixture of internal and external debt shows how apart from the negative effects on saving, internal debt replaces capital stock in individual portfolios.

Figure 5 illustrates the effects of public debt on capital accumulation dynamics. An economy without public debt is represented by the saving locus A which corresponds to the capital accumulation equation (1). The arrows indicate the dynamics from the starting capital stock k_o to the stationary level k* for the case in which there is a unique, stable, nonoscillatory equilibrium and s_r>0. The saving locus B describes the same economy when external debt is introduced and interests are partly financed by increased taxation. The dynamics follows equation (3) and the long-run capital stock is reduced to k**. Finally, the saving locus C corresponds to the same economy when there is a mixture of external and internal debt. The dynamics is given by equation (4) and the steady-state capital stock falls further to k***. The C locus integrates the double effect of internal debt, namely, the reduction of savings (change in the slope of the saving locus) and the replacement of capital by public bonds (downward shift of the curve).

FIGURE 5



Two strong ideas are derived from Figure 5 and equations (1) through (4): First, in the absence of public debt ($g_1+g_2=0$), successive generations are benefited by the capital accumulation undertaken by their predecessors; the model indicates that as far as generations accumulate capital, wages increase and savings increase ($s=s\{w[k_t],...\}$), leading to a higher steady state capital stock per capita (k* in Figure 5). Second, as far as public debt exists, future generations are left with a lower steady state capital stock (k** or k*** in Figure 5), since the taxation required to finance the debt service and also the existence of internal public debt reduce savings.[14]

Having shown that competitive economies can be inefficient, and how public debt affects capital accumulation, the next question is whether and under what conditions the issue of public debt may be Pareto-improving.

c. Does public debt remove inefficient outcomes in capitalist economies?

What do the previous results say about public debt effects in terms of standard welfare criteria? The answer depends on the dynamic efficiency conditions of the economy. In the inefficient case (n>r), public debt contributes to remove the inefficiency and is welfare improving by reducing the excessive capital intensiveness. In the efficient case (n<r), public debt reduces the capital stock even further below its golden rule level and therefore is not

Pareto improving. In conclusion, public debt is potentially beneficial when the economy is dynamically inefficient.

Gale (1990) and Blanchard (1990) have indicated that these considerations about the Pareto-improving role of debt issues are limited to models with certainty. For the case of a stationary economy (n=0), it is alleged that even in the presence of a positive expected rate of return on capital (r>0) there still is a Pareto-improving role for public debt under uncertainty; such an uncertainty stems from the fact that associated with finite lives there is a limited intergenerational insurance. The idea is that intergenerational risk sharing can be improved by the existence of non-contingent public debt assets. For instance, the availability of long-term non-contingent government bonds would spread the risks associated with the business cycle over generations.

These considerations make clear that in models with certainty there is a Pareto-improving case for public debt when the economy is dynamically inefficient. Recent research has highlighted a different role for public debt related to the possibility of providing intergenerational insurance; in this case, issuing public debt may be Pareto-improving even when a static economy is dynamically efficient. Our last question asks whether public debt policies can replicate tax-transfer schemes.

d. Is the public debt burden a matter of policy constraints?

As commented above in relation to the criticisms of the Modigliani model by Atkinson and Stiglitz (1989), the steady state impacts of debt should not be examined without considering the effects of accompanying instruments of fiscal policy. In the same line, Bierwag, Grove and Khang (1969) extend the Diamond model to demonstrate that the burden of the debt problem can be mitigated by an appropiate tax distribution scheme; a critical step in their contribution is the removal of the Diamond's assumption according to which taxes to service public debt fall exclusively on the working generation.

Diamond (1973) puts on view the results achieved by Bierwag et. al. in the context of a model of optimal growth for a decentralized economy. It is an overlapping generations model in which markets clear period by period; in order to clear markets in period t, public debt is introduced to absorb any discrepancy between desired savings and the optimal capital stock to transfer into period t+1. It is shown that the amount of debt needed to clear markets is equal to the present value of a transfer to the older generation which would be required to attain the optimal path in the absence of government debt. In conclusion, since the theoretical effects of government debt could be neutralized by an appropriate mix of lump-sum transfers and taxes, public debt constitutes a burden only in the sense that the government is constrained in the use of lump-sum taxes (Atkinson and Stiglitz, 1989).

The late 1960s discussion on the equivalence between debt policies and tax-transfer schemes has been revived in more recent debates about external and domestic debt problems (for instance, Pagano, 1988). Further, the equivalence between equilibria with bonds and tax-transfer schemes has become part of modern textbooks (for instance, McCandless, 1991). Gale (1990) recognizes that in very simple models a tax-transfer scheme can be reinterpreted as a debt policy. However, he questions the general validity of that procedure. Why does the government use security markets if it can make transfers directly? Within a general class of models, the author shows that debt policies cannot typically replicate optimal tax-transfer schemes.

In summary, discussions about the equivalence between tax-transfer schemes and public debt inspired by the Diamond model led to the conclusion that the burden of the debt could be explained by institutional limitations on the government to create appropriate tax-transfer schemes. However, recent research has indicated that optimal tax transfers cannot in general be duplicated by public debt policies.

To conclude this discussion about a basic OLG model for public debt analysis we emphasize two points. First, an LCH model à la Diamond highlights how public debt affects the dynamics of capital accumulation and makes an explicit distinction between the effects of internal and external debt. Second, the model shows how a competitive equilibrium is not necessarily efficient, and how when the economy is inefficient, issuing public debt is Pareto-improving. However, the division of life in two periods (working period and retirement period) limits the applicability of the model to actual fiscal policies. This drawback has been surmounted in the last decade by means of multiperiod and continuous time OLG models to which we now turn.

2. Multiperiod and continuous time OLG model.

Fiscal policies have real effects because they alter incentives either to save or redistribute across (or within) generations; this is a common message of life-cycle models. Real effects are mainly restricted to the implications on capital formation. Analyses based on simple two-period models à la Diamond have been completed by the construction of multiperiod models. One of the advantages of these models is that they help to understand short-run effects of fiscal policies. This is not a minor point when each period in the two-period model corresponds to about 30 years in real time. Kotlikoff (1984) and Auerbach and Kotlikoff (1987) are representatives of this approach.

A different method is the formulation of continuous time overlapping generations models. Cass and Yaary (1967) duplicate Diamond results in this kind of models. Blanchard (1985) uses a continuous time model to study the dynamics of different fiscal policies. This version enables the comparison of debt policy results in life-cycle models with those attained in optimal growth models; some results are applied in Blanchard (1984) to the analysis of fiscal policy effects on interest rates and capital accumulation. Both the multiperiod models and the continuous time models are reviewed next.

In the line explored by Auerbach and Kotlikoff, the following results are underlined. First, the notion of crowding out in life-cyle contexts is thoroughly related to cross-generational income effects which play the crucial role in reducing national saving. Second, consumption changes induced by fiscal policies are spread over a long time by life-cycle agents. This behaviour characterizes crowding out as a slow and cumulative process. Third, in general, bond financed deficits and balanced budget increases in government consumption negatively affect the capital accumulation process and the welfare of future generations.

By conducting policy simulations, it is found that some policies may lead to short-run crowding in regardless of the long-run crowding out; this case is particularly associated with short-term tax cuts. It is argued that this outcome is caused by the predominance of substitution over income effects.[15] Additionally, it is shown that permanent balanced budget increases in government consumption crowd out capital formation in the long run. Temporary changes of this class are neutral in the long run but produce a higher crowding out in the short run.[16] Finally, the crowding out induced by bond financed increases in government consumption is more severe the longer the policy period. This is so, because the longer the period the major the involvement of older generations with heightened consumption levels.

As for the continuous time method, the OLG model developed by Blanchard (1984, 1985) is a suitable setting for the analysis of the effects of fiscal policies in an undistorted economy. Consumer behaviour is based on Yaari's (1965) "uncertain lifetime" approach as applied to an aggregate macroeconomic model. Two assumptions are pivotal to this framework. First, agents face a constant instantaneous probability of death p so that their expected life is p^{-1}. Second, regardless of their individual ages, all agents have the same marginal propensity to consume out of wealth. These assumptions allow aggregation and preserve the life-cycle characteristic of finite horizons. This characteristic is particularly important in public debt analyses.[17] As the probability of dying falls, the life expectancy increases; in the limit, when p tends to zero, the horizon becomes infinite. Therefore, the Yaari-Blanchard formulation

makes possible the comparison of public debt implications in finite horizon models ($p>0$) and infinite horizon models ($p=0$).

In contrast with the results obtained in Section III regarding the infinite horizon model, it is possible to show how in the finite horizon model a change in the timing of nondistortionary taxes, at given interest rates, affects consumption. The reason for this divergent result is the presence of short-lived individuals whose effective interest rate (the market rate plus the constant instantaneous probability of death) used in discounting future taxes is higher than the market interest rate relevant for the government. Formal details are offered in Box IV, 2.

BOX IV. 2

Wealth effects of budget deficits in an undistorted economy.

The following consumption functions are derived from explicit utility maximizing procedures (individual variables are given by lower case letters):

$$\text{Individual} \quad c=[p+\varepsilon][w+h]; \quad Dw=(r+p)w+y-c \qquad (5)$$

$$\text{Aggregate} \quad C=[p+\varepsilon][W+H]; \quad DW=rW+Y-C \qquad (6)$$

where ε is the subjective discount rate, W and H are the nonhuman and human wealth correspondingly, Y is the noninterest income, and D is a time derivative. There are two basic differences between equation (5) and the traditional formulation: the marginal propensity to consume out of wealth is $(p+\varepsilon)$ rather than ε, and the relevant interest rate is (r+p) rather than r. Additionally, there is an important difference between (5) and (6): in the individual case the effective rate of interest is (r+p) while for the society as a whole it is r. This is so because pw is extinguished with the death of wealth holders. Therefore, the discount rate for aggregate human wealth (r+p) is higher than the discount rate for nonhuman wealth (r). The aggregate human wealth is the present discounted value of noninterest income discounted at (r+p). For agents still alive at time s the behaviour of human wealth H(t) is given by

$$H(t) = \int_t^{\infty} Y_s \exp\left[-\int_t^s (r_v+p)\,dv\right] ds \qquad (7)$$

How does a change in the timing of taxes affect consumption? In an economy with nondistortionary taxes wealth effects are the channel through which budget deficits affect the economy.[18] The key assumption is that agents have finite life (p>0); otherwise the analysis is back to the infinite horizon models reviewed in Section III above where government deficits have no real effects. Including lump-sum taxes the behaviour of H(t) and the intertemporal government budget constraint are as follows:[19]

$$H(t) = \int_t^{\infty} Y_s \exp\left[-\int_t^s (r_v+p)\,dv\right] ds - \int_t^{\infty} T_s \exp\left[-\int_t^s (r_v+p)\,dv\right] ds \qquad (8)$$

$$B(t) + \int_t^{\infty} G_s \exp\left[-\int_t^s r_v\,dv\right] ds = \int_t^{\infty} T_s \exp\left[-\int_t^s r_v\,dv\right] ds \qquad (9)$$

Given a path of government spending, a tax cut leaves the right-hand side of (9) unchanged, but changes the value of the second term in (8). While the government discount rate is r, the private sector discounts the future tax hike at (r+p). Therefore, given interest rates, a tax cut will increase H(t) and C(t) provided that p>0. The finitness of the individual horizon is at the base of the positive wealth effect induced by the tax policy. As p^{-1} approaches infinity the positive wealth effect vanishes. If agents discount future taxes at r the timing of finance is irrelevant, and only the government spending path matters. This is the same conclusion reported by infinite horizon models, as we saw in Section III above, and in the public debt controversy is known as the Ricardian equivalence proposition; the historical precedents of this proposition were discussed in Section II above, and extensions and criticisms of it are considered in Section VI below.

In a general equilibrium perspective the path of interest rates is not invariant to the intertemporal allocation of taxes, as assumed in the previous paragraph (and also in Box IV, 2). The point is critical from the viewpoint of capital accumulation since a trajectory of higher interest rates would discourage investment. The process can be illustrated with

reference to a short-term tax cut policy financed by new bond issues. As long as the budget deficit persists, the stock of public debt increases and interest rates go up. Once the deficit policy comes to an end, taxes are raised to restablish budget balance, but the outstanding stock of public debt and the interest rate levels are higher than when the policy change was launched into. Since higher interest rates and a major share of public bonds in private portfolios displace capital, future generations will find themselves with a lower capital stock.

In conclusion, multiperiod versions of OLG models shed some light on the short- and long-term effects of alternative fiscal policies. The continuous time version makes possible to compare the implications of bond financed tax cuts on consumption and capital accumulation derived from life-cycle models and from optimal growth models. Since in LCH frameworks life is finite, generations are affected by changes in the intertemporal allocation of taxes; this is the critical contrast with optimal growth models in which life is infinite and the timing of taxes is irrelevant. Specifically, a bond financed tax cut increases consumption in a LCH setting (given interest rates), while consumption remains invariant in an optimal growth model; as for capital accumulation, while life-cycle models report that investors substitute government bonds for equity shares in response to a bond financed tax cut, optimal growth models indicate that economic agents will increase saving in the magnitude of the tax cut to absorb the increased bond issues leaving equity shares unaltered in savers' portfolios.[20]

C. Final comments and links with other sections of this work.

Since the early expositions of the LCH in the 1950s it has been clear that life-cycle analyses of budget deficits depart from traditional Keynesian formulations and also from the neutrality propositions of infinite horizon models. In Keynesian expositions consumption is a function of disposable income and therefore current tax cuts are expected to stimulate consumption. Since in the LCH framework rational agents base their consumption on life resources, a current tax cut is seen as a change of taxes in the present for taxes in the future. If life is infinitely lasting as in the optimal growth models reviewed in Section III, this change in the

timing of taxes is of no consequence for consumption. If life is finite, as it is in LCH frameworks, the change in the timing of taxes will encourage current consumption since the current generation will pay the future taxes only as it lives and pays taxes. Modigliani (1993) has quoted estimations according to which the average fraction of current deficits paid by current generations is of about 30%; this fraction is shown to depend on variables such as life expectancy, income growth rate and interest rate.

The life-cycle and the debt neutrality paradigms differ from traditional Keynesian expositions in that they are both derived from explicit optimization procedures, and market clearing is a basic assumption. In spite of this common ground there are also sharp contrasts. Since Barro (1974) it has been clear that while intergenerational selfishness is crucial for life-cycle results, intergenerational altruism is the central feature of modern expositions of debt neutrality. Rationality is far greater in debt neutrality analyses since agents foresee the precise implications of budget deficits (Modigliani, 1987).

The structure of capital markets has also been a source of discrepancy between life-cycle theorists and other schools. In life-cycle models agents enjoy free access to lending and borrowing operations in perfect capital markets; there are not liquidity constraints as they exist in the Keynesian framework. However, it has been the consideration of capital market imperfections what has led recent life-cycle theorists to accept the existence of intergenerational transfers, though not for altruistic reasons as in debt neutrality frameworks. It has been argued that intergenerational transfers may result from the absence of fairly developed annuity markets (Kotlikoff, 1988, 1989).

What are the implications of the life-cycle framework for policy prescription? The crucial tenet is that fiscal policies redistribute welfare among generations and thus actual policies should be chosen in a way that each generation pays for itself (Modigliani, 1961, 1986, 1987). In this context the practical aim of fiscal policy which does not create conflict between generations appears to be the stabilization of income over the business cycle. So as

to achieve that aim, fiscal deficits during recessions should be followed by surpluses during booms. An important consideration is that this sequence of deficits and surpluses is not limited to the operation of automatic stabilizers but involve procyclical tax rates, namely, lower tax rates during recessions and higher ones during booms. This discretionary use of tax rate changes is however to be restricted by an intertemporally balanced budget.

The strong case for cyclically balanced budgets has been a constant in life-cycle fiscal policy discussions. In the early 1960s it was defended as a matter of intergeneration equity and the combination of discretionary policies and intertemporal budget balance was seen as a compromise between the Lerner's "functional finance" and the Buchanan's "classical principles of public debt" (Modigliani, 1961). In the mid-1980s the same strong case has been reiterated by Modigliani (1986) in a comparison of the life-cycle model and the Barro (1979, 1986) tax smoothing theory of deficits which we discuss in Section VI below. Modigliani observes that although the Barro's model also implies cyclically balanced budgets, it prescribes constant tax rates, while the life cycle model includes the possibility of discretionary tax rate changes.

The life cycle model also deals with the financing of major transitory government expenditures which are thought to affect future generations. If future generations are to be benefited from current expenditures, it is a matter of intergeneration equity that the costs be spread across generations. Examples of this sort of government expenditures range from projects which are expected to produce future net yields, to the extreme event of war. So as to spread the cost between generations, the current generation should pay a fraction of it through increased taxation. In conclusion, major temporary government expenditures should only partially be financed by an increased public debt.

To what extent are these discussions helpful for our study of the Colombian experience in parts III and IV?

The strong case for cyclically balanced budgets put forward by the life cycle model is one of the references for our econometric work and historical accounts. In our first model in Part III we discuss our estimations following the guidance of alternative paradigms, the life-cycle model being one of them. Our main reference is the tax smoothing theory since it offers precise predictions for coefficients such as output and government expenditures. Specifically, in a model in which the dependent variable is the change in the stock of debt, tax smoothing predicts unitary coefficients (in absolute value) for the independent variables output and government expenditures while the life cycle model predicts a coefficient greater than one for output, and a coefficient lower than one for government expenditures. These predictions are considered in the interpretation of our own results.

SECTION IV

NOTES

1. The social cost of this fiscal policy is borne by the individuals living after the recomposition of portfolios and is given by the reduction in the stock of private capital and by the taxes collected to pay public debt interests. In this particular point this analysis coincides with Buchanan's positions (Section II above).

2. The impact effect of this policy on private balancesheets is determined by the magnitude of the tax change multiplied by the marginal propensity to save. Private capital stock falls in such magnitude. What is the long run effect? The reduction of consumption is spread by individuals over their lifetime. Then, as time passes savings increase until the initial private capital stock is restored.

3. Another example is given by a tax-financed debt retirement, in which case there will be a higher proportion of capital in long run private portfolios according to the magnitude of debt reduction. Similarly, a "gratuitous" retirement of debt through total or partial repudiation, capital levy, or unanticipated inflation will also increase the capital stock; the critical point is that the forced reduction of the real value of the principal causes consumption to fall and therefore a higher rate of saving. This is the issue previously advanced by Meade (1958) - Section II above-.

4. The point is illustrated by the following steady state condition:

$$nk = [s_w\alpha+s_r(1-\alpha)]f-[s_r-s_w][Tc-rb]-nb[1-s_w]$$

where s, s_r and s_w are the propensity to save, the propensity to save out of profits, and the propensity to save out of wages, respectively; α is the share of labour on output; Tc is the per-capita capital tax created to finance a transfer to workers (T) and also the debt service (Tc=T+(r-n)b); b is the per-capita stock of public debt; and f is the per-capita production function, y=f(k).

In the proportional savings case $s_w=s_r=s$, a positive value of the per-capita public debt b>0 implies a lower capital intensiveness K/L than when b=0; this is the standard neoclassical result which we reviewed in Section III. Modigliani's proposition can be analyzed by differentiating the steady-state condition given above:

$$(sf'-n)dk/db = n(1-s)$$

As seen, only with f'=n the Modigliani's case is satisfied. For f'>n and sf'<n, the reduction in the capital stock is proportionately greater than an increase in public debt.

5. With reference to the steady-state condition in note 4 it is possible to show that in the classical savings case (where $s_r>s_w$), particularly when s_r is close to 1, and in the absence of taxes levied on capital ($T_c=0$), the direction of the debt effects on capital accumulation might be reversed. In fact, by making $T_c=0$, the steady state condition becomes

$$nk = [s_w\alpha+s_r(1-\alpha)]f - (1-s_r)nb + (s_r-s_w)(r-n)b$$

where for s_r close to 1 or a large r relative to n, an increase in b may lead to an increase (not decrease) in the capital intensity. The clue of this result is the elimination of the tax on capital which previously financed the debt service.

6. Samuelson (1958) p.480

7. If consumption is divided between the younger generation e^1L_t and the older generation e^2L_{t-1}, the every-period distribution of resources is as follows:

$$K_t+Y_t = K_{t+1}+C_t = K_{t+1}+e^1{}_tL_t+e^2{}_tL_{t-1} \quad \text{or}$$

$$Y_t-(K_{t+1}-K_t) = C_t = e^1{}_tL_t + e^2{}_tL_{t-1}$$

Assuming that authorities decide to keep a constant capital-labor ratio, the periodical capital accumulation is given by $K_{t+1} = (1+n)K_t$. Then, the last equation becomes $Y_t - nK_t = C_t = e^1_t L_t + e^2_t L_{t-1}$, which in per-capita terms gives, $y_t - nk_t = c_t = e^1_t + e^2_t/(1+n)$

8. If generations are allowed to distribute their consumption over time the optimization problem consists in maximizing the utility function $U(e^1, e^2)$ subject to $e^1_t + e^2_t/(1+n) = y_t - nk_t$ (see previous note). The consumption distribution which maximizes utility requires that $U_{e^1} = (1+n)U_{e^2}$. Then, the optimal rate of interest is determined by the rate of population growth.

9. The sign of s_r is ambiguous depending on the relative importance of income and substitution effects. When the latter are dominant, savings increase in response to increases in interest rates.

10. The capital stock in t+1 is equal to savings in t. These are the gross savings of the younger at t, which are partially offsetted by the dissavings of the older, k_t:

$$k_{t+1} - k_t = L_t s(w_t, r_{t+1}) - k_t \quad \text{or}$$
$$k_{t+1} = L_t s(w_t, r_{t+1})$$

11. E_1 is not inefficient in the sense that temporary sacrifices in consumption are required to reach a higher capital intensiveness.

12. Except at E* the consumption possibilities in the market economy are more restricted than in the central planning framework. The additional constraint is the capital market in which savings of the younger (1+n)k provide the capital for the older period, (1+r)(1+n)k. In general, the competitive solution does not coincide with E*.

13. Given full employment and a government expenditure path the question is about the effects of a substitution of debt for tax finance. It is assumed a one-period maturity of public bonds, and interests are paid off according to the equilibrium interest rate in the capital market. Interests are financed by new debt or by lump-sum taxes on the younger generation. The debt per-capita ratio is assumed to be constant, that is, the debt grows at the same rate of the economy, n.

14. As for stability, the system reaches a stationary state at k***, at the growth rate n, if the following condition is satisfied:

$$0 < dk_{t+1}/dk_t = s_w\{-f''(k^*)[k^*+g_1+g_2]\}/[1+n-s_r f''(k^*)] < 1$$

For $s_r > 0$, the ratio dk_{t+1}/dk_t is positive. Further, nonoscillating convergence requires that (the absolute value of) dk_{t+1}/dk_t be between 0 and 1.

15. Simulations are conducted to compare the reactions of agents to short-term tax cuts -for 1 or 5 years- and to long-term tax cuts -for 20 years-. In the former situation, younger generations foresee higher tax payments for a long time with obvious negative effects on their budget constraints. In anticipation, they substitute future for current consumption. In the latter situation income effects are dominant because the long period tax cut favours a wide range of younger generations: national saving decreases and crowding out occurs since the policy implementation.

16. This is another case of predominant substitution effects. Agents reduce saving when facing a temporary increase in taxes, then reinforcing the crowding out effect of the increased government consumption. This behaviour is reversed once taxes are back to their precedent levels.

17. Aggregation has been a traditional problem of life-cycle analysis. Agents differ in ages and so in wealth levels, and in life time horizons and so in marginal propensities to consume out of wealth. As noted by Blanchard, his formulation is of little insight when differences in marginal propensities to consume are important.

18. With distortionary taxes budget deficits affect the economy by means of temporal and intertemporal substitution effects created by distortions.

19. Government spending is financed by taxes or by debt issues, DB. Accordingly, the government budget constraint is DB = G-T+rB. It is assumed that DB reaches some steady state level, that is, the government satisfies the transversality condition

$$\lim_{s\to\infty} B(s)\exp[-\int_{t}^{s} r_v dv) = 0$$

20. LCH models coincide with optimal growth models in reporting reductions in consumption in response to tax- financed increases of government expenditures. They differ, however, in the implications of such increases of government expenditures on the steady-state capital stock: while LCH models document a reduction of capital, optimal growth models show that capital is invariant to changes in G (Blanchard and Fischer, 1989).

SECTION V

Neo-Keynesian controversies on public debt.

Introduction

"We are all Keynesians now and nobody is any longer a Keynesian" was the way by which M. Friedman described the consensus achieved by economists during the first half of the 1960s (Stein, 1969, p.382). It was a time of rapid growth and stability of the U.S. economy when tax cuts were being advised to avoid the negative effects of a fiscal drag. The concord, however, was not to last for long. Economists denounced a set of circumstances which led to the breakdown of the consensus, namely, the budgetary pressures originated in the Vietnam war and the Great Society programs of the time, as well as the delay to adopt fiscal correctives (Friedman, 1972; Okun, 1972). By the end of the decade, Friedman himself made explicit the existence of contrasting viewpoints regarding economic policy, particularly monetary policy (Friedman, 1968). Academics concentrated on the relative efficacy of monetary and fiscal policy within the IS-LM framework, captured by the issue of the relative slopes and stability of the IS and LM functions (Laidler, 1971).

Further developments led to the formal recognition of links between fiscal and monetary policy by means of the government budget constraint. This is our starting topic in this section, since among the literature of the late 1960s and early 1970s, here the macroeconomic effects of public debt issues are explicitly and formally examined. We will briefly refer to the Keynesian-monetarist controversy as long as it is helpful for our central discussion, before moving to the late 1970s portfolio contributions. Altogether, the government budget constraint writings and the portfolio discussions made part of the pre-rational expectations literature, since further public debt analyses were enriched by the consideration of how

forward- looking fiscal expectations affect financial markets and eventually private investment.

Our central concerns in this section are then twofold. First, the early 1970s debate about the connections between fiscal and monetary policies through the government budget constraint. The resulting literature emphasized the importance of making explicit how budget deficits are financed and the distinction between short- and long-run effects of policies. These are the topics treated in subsection A. Second, the crowding out controversy of the late 1970s and early 1980s with new developments in two areas: first the portfolio theory whose early evolution was previously discussed in Section I; and second, the more recent analyses of the effects of budget deficits on aggregate demand in rational expectations models. These topics are dealt with in subsection B. Final comments about the neo-Keynesian paradigm and links with other sections of this work are made in subsection C.

A. Government financing and aggregate demand.

Two convergent strands of literature contributed to the 1970s debate on the impacts of government financing on aggregate demand: the discussion about the role of the government budget constraint, and the Neokeynesian-Monetarist controversy. The IS-LM model was the common ground of analysis. The distinction between short- and long-run effects of macroeconomic policies, and the implications of bond-financed deficits were the central issues in question. We start by reviewing the analysis of the government budget constraint.

1. The early government budget constraint literature.

In the historical perspective of public debt controversies, the Lerner's "functional finance" and the Friedman (1948) proposal are significant precedents of the government financing discussions of the early 1970s (Section I above). Both two expositions vindicate the effect of

government deficits on aggregate demand but neither of them explicitly use the formal income-multiplier analysis.

Ott and Ott (1965) call the attention to "the endogenous impacts upon income of the government's budget balance". The technical reference is a fixed price, unemployment, closed economy version of the IS-LM model considering wealth effects in both goods and money markets. Starting from an equilibrium position, an increased government expenditure brings about a higher level of income; this is an impact effect. The deficit financing causes a further income expansion through wealth effects on demand, and given proportional tax rates the increased fiscal revenues lead to a new budget balance; this point determines the new long-run income equilibrium. The message is that fiscal policies render a more expansionary effect in the long run than in the short run described by the standard fiscal multiplier. The new expenditure multiplier is the reciprocal of the marginal tax rate. The surprising aspect of this result is that it holds independently of the method of financing government deficits and regardless of the behaviour parameters of the economy.

Christ (1968) highlights the role of the government budget constraint. The idea is that policy makers cannot define arbitrary trajectories for all of the macroeconomic policy variables at the same time. The trajectory of at least one of these variables must be jointly determined by the government budget constraint and the structure of the economy. Christ discusses a fixed price static macroeconomic model of aggregate demand without wealth effects. The model becomes dynamic after the inclusion of the government budget constraint. The multiplier effect of a change in exhaustive government expenditures is analyzed when the endogenous variable is high powered money: the reduction of the equilibrium interest rate due to the enlarged money supply leads to higher levels of income and the economy reaches a new long-run equilibrium when the budget is balanced.

Silber (1970) attempts "to integrate properly the debt aspects of fiscal policy into IS-LM analysis". The framework is a fixed price, unemployment version of the IS-LM model. The

system is formed by two static and one dynamic equation. The former correspond to the IS and LM functions, and specify short-run conditions for certain values of the stock of assets which make up wealth, namely, money, bonds and capital. The latter is the government budget constraint where taxes are of a lump-sum type. Since government bonds appear in both the consumption and the demand for money functions, an increase in the supply of bonds enlarges the stock of wealth and stimulates both consumption (rightward IS shift) and the demand for money (leftward LM shift).[1] Therefore, the combined wealth effects on the goods and financial markets do not guarantee that budgetary deficits invariably bring about higher levels of economic activity in the long run. The final outcome depends upon the relative shifts and slopes of the IS and LM functions.

In Silber's model, while money-financed deficits consistently expand total output, bond-financed deficits open the possibility of no expansion at all, or even of reductions in total output (negative multipliers). In the former case the expansionary process continuous indefinitely unless the deficit is eliminated by curtailment of government expenditures. In the latter case, the fact that bond financed deficits can bring about a crowding out of more than a hundred per cent hinges on the Keynesian assumption according to which bonds and capital are closer substitutes than bonds and money (Tobin, 1961). Otherwise, an increase in the supply of bonds affects the LM function in a similar way as an increase in the money supply: this is a case of portfolio crowding in which enlarges the expansionary impact of a deficit policy (Friedman, B., 1978).[2]

The early government budget constraint literature constituted the first formal discussion of the implications of financing flows resulting from government deficits (surpluses) for the standard IS-LM analysis. In this sense, this early literature came to fill a "major lacuna" in standard macroeconomics (Currie, 1978. Chick, 1983).[3] We continue our exposition with a rapid reference to the neokeynesian-monetarist controversy, concentrating our attention on the allusions to the effects of budgetary policies on aggregate demand.

2. The neokeynesian-monetarist controversy.

Tobin (1972) argues that while neo-Keynesians accept that nominal income is affected by both monetary and fiscal policies, monetarists only recognize the effectiveness of monetary policies. In particular, the controversy would focus on the shape of the LM locus, with the monetarists defending a demand for money function completely insensitive to interest rates -a vertical LM curve in the (Y, r) space-. Friedman (1972) contraargues that "at any rate" the matter of debate cannot be the slope of the LM locus. Instead, it is alleged, the truly monetarist characteristic concerns "the effect of nominal magnitudes on nominal and real magnitudes". The point may be discussed with relation to the transmission mechanism of monetary policies, and the short- and long-run effects of monetary and fiscal policies.[4]

Monetarists denounce the tendency of neo-Keynesians to concentrate on the dynamics of short-run policy changes, overlooking the cumulative effects derived from changes in stocks. In the opposite camp, neo-Keynesians argue that the quantity-theory approach does not pay much attention to flows of spending in the short run. However, both groups recognize that the relative importance of first and second round effects is an empirical matter (Friedman, 1972. Blinder and Solow, 1973).

Friedman (1972) illustrates the difference between money- and bond-financed deficits. The existence of permanent effects of monetary policies for the case of a temporary deficit is described in the context of the IS-LM model as follows: authorities carry out a money-financed deficit for a short period after which the budget is balanced again; the IS shifts to the right and returns to its original position; the LM also moves to the right, achieving a new position at a higher income level but does not move back when the deficit is eliminated. As far as constant prices hold, nominal and real income stay at the superior level of income in spite of the backward movement of the IS curve. In the case of bond-financed deficits, it is argued that public bonds displace private bonds from investors portfolios, then reducing the financing of private projects. The higher the magnitude of this displacement, the minor the

expansionary effect of the deficit. Therefore, the likely result of bond-financed deficits is "a minor", if any, expansionary effect.

There is a convergence between the monetarist position and the Treasury view reviewed in Section I above, according to which budget deficits primarily affect the allocation of resources between private and public sector. This is the basis for discarding budgetary policies as a leading instrument of stabilization (Fand, 1970).

In a distinct side of the monetarist camp, Brunner and Meltzer (1972) discuss the role of budget deficits and their financing within a model proposed as an alternative to the IS-LM framework. Both fiscal and monetary policies are seen working through changes in the relative prices of assets and output. These price changes start out the adjustment until a new stock-flow equilibrium is achieved. In a further essay, Brunner and Meltzer (1976) find expansionary influences on nominal income due to either money or bond financed deficits. The key of these expansionary results is the recognition of wealth effects in both methods of financing. This conclusion is clearly at odds with the most rigid versions of monetarism which disavow the stabilizing possibilities of fiscal policies.

Fiscal policy "does matter" was a categoric pronouncement in the neo-Keynesian camp. A new agenda of research based on earlier work on the government budget constraint was carried out during the 1970s. The main concerns were the long-run effects of fiscal policies and the stability implications of alternative ways of financing government budget deficits. Blinder and Solow (1973) provided the formal dynamic analysis and inspired further questions about stability and the role of public debt on a trajectory to a long-run equilibrium. It is to these discussions to which we now turn.

3. Long run, dynamics and stability.

a. The Blinder-Solow model.

Blinder and Solow (1973, 1974, 1976) offer a systematic discussion of the long-run effects of fiscal policy. It is an attempt to demonstrate that fiscal policy works, a response the the challenge that only "temporary" and "minor" effects can be expected from fiscal measures. The main contribution is the analysis of the long-run dynamics and stability of an economic system under alternative ways of budget deficit financing.

The characteristics of the model can be summarized as follows: First, as in Silber (1970), consumption and demand for money depend positively on wealth which is held in the form of money, bonds and equity. Money (High powered money) and government bonds are perceived as net wealth by the private sector. Following the Keynesian assumption, bonds and capital are perfect substitutes in portfolios. Second, unlike Silber, taxation is linked to income. Interest payments on outstanding government bonds are also a taxable income of the private sector. Third, capital accumulation is given as a function of income, the nominal rate of return on debt, and the stock of capital. Finally, the model considers a stationary economy, and the price level is fixed even in the long run. This requires budget balance as an equilibrium condition.

The long-run level of output is affected by the way in which deficits are financed. When financed by money issues the long-run multiplier is exactly the reciprocal of the marginal propensity to tax. When financed by bond issues the long-run multiplier is amplified by the effect of the net interest payments on debt. These results contrast with previous findings particularly by Ott and Ott (1965). As seen above, these authors found a long-run government multiplier independent of the method of financing. Here, it is not only dependent on the financing method but implies that bond financed deficits are more expansionary in the long run than money financed deficits. As seen, the difference stems from the explicit consideration of debt service payments. A more formal discussion is offered in Box V, 1.

BOX V. 1
Dynamics and stability in the Blinder-Solow model

The four-equation dynamic system is:

$$Y = C[Y+B-T(Y+B),\ M+B/r+K] + I[Y,\ r,\ K] + G \quad (1)$$
$$M = L[Y,\ r,\ M+B/r+K] \quad (2)$$
$$DM + DB/r = G+B-T(Y+B) \quad (3)$$
$$DK = I[Y,\ r,\ K],\ I_Y>0,\ I_r<0,\ I_K<0 \quad (4)$$

The IS (equation 1) and LM (equation 2) functions obey the assumptions that consumption and demand for money depend on total wealth. Equation (3) is the government budget constraint and equation (4) the law of motion of capital accumulation. For long-run equilibrium, DM=DB=0, which means that the budget is balanced: G=T(Y+B)-B. The immediate consequence of this identity is the long-run government expenditure multiplier $dY/dG = 1+(1-T')dB/dG\ /T'$.

Two main results concern stability. First, a money financed deficit (dB/dG =0) consistently brings about a stable long-run equilibrium. Owing to wealth effects on consumption (equation 1) aggregate demand and real output increase. The demand for money in equation 2 also increases, and this fact generates contractionary effects; under the assumption that the increase in the demand for money is smaller than the increase in wealth, the rise in the money supply outstrips the wealth induced rise in the demand for money. Therefore the wealth effects on output are always expansionary. Because of the income-linked tax function, as output increases tax revenues rise, the budget deficit becomes smaller an a new long-run equilibrium is reached when eventually the increased tax revenues dt equal the initial upsurge in government spending dg.

Second, pure bond or mixed money-bond financing may cause instability. A crucial fact is the net influence of wealth effects on consumption and money demand. If the latter is higher, a negative and cumulative influence lowers incomes and revenues leading to broader deficits and the requirement of new bond issues. In the long run the fiscal multiplier is negative (tending to $-\infty$). Alternatively, when wealth effects on consumption are predominant, stability is not unambiguously assured since it requires that the increase in tax revenues outweigh the increased cost of debt service. Additionally, stability demands that increases in wealth due to the expansion of the capital stock -which affects consumption positively and new investment negatively- generate contractionary effects. If these conditions are not met, output expands indefinitely given the assumption of no capacity constraints. Unfortunately, the hope for stability under bond financing may vanish because of the repercussion of accelerator effects on the investment function. When this influence is taken into account as it is in I(Y, r, K) in equation (1) the authors show how the mathematical conditions for stability are not necessarily satisfied.

The main results can be summarized as follows: First, money financed deficits always produce stable systems. The corresponding long-run fiscal multiplier is the reciprocal of the marginal propensity to tax. Second, a bond-financed deficit, if stable, is more expansionary than a money-financed deficit. The long-run multiplier incorporates the financial service of the public debt. Third, stability and effectiveness of fiscal policies under bond financing are empirical issues. In the simplest IS-LM model with fixed capital, long-run equilibrium requires that tax revenues cover the cost of public debt. This is a necessary stability

condition. When capital is allowed to vary this condition is less restrictive (provided that another condition is met), then enhancing the case for stability. However, it is shown that after the introduction of income effects on the investment function the stability conditions invoked by Blinder and Solow no longer necessarily hold.

b. Extensions and criticisms.

1) Is instability a characteristic of the economic system?

Tobin and Buiter (1976) show that the Blinder-Solow model includes a built-in debt propagation mechanism which transforms an initial increase in government expenditure in an even more expansionary policy. The criticism is addressed to the definition of the government expenditure variable and can be seen with reference to the budget constraint G+B-T(Y+B)=DB. Blinder and Solow use the notation of exhaustive government spending G with the stability implications discussed above. Tobin and Buiter suggest a government expenditure variable G' equal to G plus interest payments net of taxes: G'=G+(1-T)B. Therefore, the budget constraint becomes G'-TY=DB. When this equation is integrated in a system of four equations in capital, debt, output and interest rate, it is found that in the unemployment case, sufficient and necessary conditions for stability are met. These conditions are less stringent than in the Blinder-Solow analysis. However, for the full employment case the long-run equilibrium is unstable with static expectations and only likely stable with perfect foresight.

Christ (1979) disavowes the use of either G or G' as the policy parameter. It is alleged that in either case when bonds are issued to finance a deficit there is no tendency to budget balance. When G is the expenditure variable the budget constraint G-TY+(1-T)B=DB shows that whenever bonds are issued the deficit increases in (1-T)B. The system is driven farther away from equilibrium and the possibility of explosive debt growth is not ruled out under the assumption of fixed values of G and T. Alternatively, when using G' the budget constraint

G'-TY=DB shows that bond issues do not change the deficit. Christ suggests a policy parameter that includes gross interests, G"=G+B. In this case, the budget constraint G"-TY-TB=DB shows that for B>0 the deficit decreases by TB. It is revealed how by introducing G" instead of G assures stability in the Blinder-Solow fixed-capital model. Similarly, by replacing G' by G" in the Tobin-Buiter full employment-static expectations model stability is now possible.

Currie (1978) doubts that changes in the policy parameter can remove the possibility of instability. It is still possible that wealth contractionary effects on the demand for money eclipse the upsurge in the goods market. Additionally, constant fiscal policies defined according to either G' or G" imply a one-by-one compensation of interest payments by cuts in government purchases whose recessionary effects may prevent the adoption of such policies.[5]

In conclusion, the potential instability associated with bond- financed deficits which emerged from Blinder and Solow results does not stem from any trait of the economic system. The controversy about the policy parameter shows that authorities have instruments to avert a likely explosive debt-deficit spiral. In practice, results would be subject to institutional contexts and policy options chosen by authorities.

2) Are pure fiscal policy effects only transitory?

As seen above, monetarists recognized no more than minor and temporary effects from bond-financed deficits. The neo-Keynesian counterattack attempted to show that there were reasons to believe in the permanence of pure fiscal stimulus on aggregate demand. Following the work by Blinder and Solow, a series of studies offered a more elaborate discussion of the formal dynamic analysis and also empirical implications of alternative monetary and fiscal policies. Stein (1976) and Cook and Jackson (1979) compiled contributions to the debate on both sides of the Atlantic.

Neo-Keynesians maintained over the long run the short-run analysis conclusion according to which pure fiscal policy will raise aggregate real demand unless the interest elasticity of money demand is zero. In particular, Tobin and Buiter (1976) extended the analysis of the cumulative effects of deficits from the underemployment case to a full-employment, flexible price setting. A graphical description of these cumulative effects is offered in Box V, 2.

BOX V. 2

The cumulative effects of bond-financed deficits and the achievement of long-run equilibrium. An example from the mid-1970s.

Apart from conventional IS and LM equations which give the momentary equilibrium, two long-run equations are proposed by Tobin and Buiter (1976): one is the zero government saving equation used by Blinder and Solow but working with G' instead of G (equation 5 below); and the other one is a zero private sector saving equation. The latter follows life-cycle principles in defining wealth W as a multiple of disposable income, W=aY. The long run LM function LLM can be expressed in terms of the ratio Y/W (equation 6)

$$G'-TY=DB=0 \quad (5)$$

$$M=L(r,Y/W)W=L(r,1/a)aY \quad (6)$$

The corresponding phase diagram in (Y, r) space is depicted in Figure 6a.[6]

FIGURE 6a

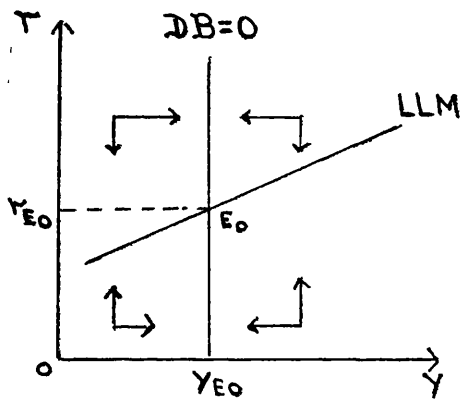


FIGURE 6b

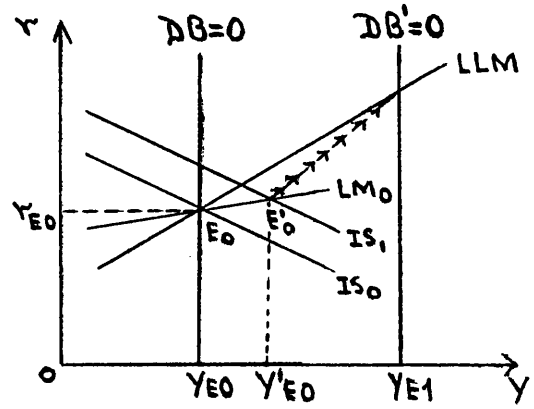


Figure 6b shows the comparative statics when government expenditures are increased. The long-run equilibrium E_0 is simultaneously the short-run equilibrium of the IS_0-LM_0 system for given stocks of M, B, K, and its aggregate value W. A once-for-all change in government expenditures shifts the DB=0 locus to the right until the new long-run equilibrium E_1 is attained. The impact effect is represented by the movement of the IS curve to IS_1 and the short run equilibrium is given by E_0'; at the corresponding income level Y_{E0}' (lower than Y_{E1}) and at any level of income between Y_{E0} and Y_{E1} there is budget deficit, and public debt is accumulating along the dynamic path between E_0 and E_1. Wealth effects derived from the increased stocks of public debt (being M constant) shift upwards the IS-LM curves describing a path like the dashed line.

A new balanced budget is reached at Y_{E1}, and for this income level the interest rate that keeps asset markets in equilibrium is r_{E1}. At E_1 with higher Y, the desired wealth must be higher because of the long-run equilibrium relationship of wealth to income. Importantly, the higher interest rate r_{E1} implies a different portfolio composition, with a lower demand for both money and capital, than at the original rate r_{E0}. Put it other way, the new equilibrium position comprises an enlarged stock of public debt, and higher ratios of public debt to income and wealth.[7,8]. As a whole, this model integrates the common IS-LM apparatus and long-run relationships which express that saving accumulates wealth and government budget deficits add to the stock of public debt. The model is explicit about the portfolio recomposition which takes place as a result of bond-financed budget deficits.

Overall, what is the abiding message of the government budget constraint literature and its contribution to the public debt debate? By the end of the 1970s, observers noted that

theoretical work on the government budget constraint had entered a phase of "rapidly diminishing returns" (Buiter, 1978. Currie, 1978). Perhaps the most permanent message of the literature is the significance of making explicit how government expenditures and/or deficits are financed, and the importance of distinguishing between short- and long-run analysis of the effects of fiscal policy. Regarding practical policy relevance the literature does not offer prescriptions but vindicates a role for fiscal policy: although it is indicated that some crowding out effects of private spending go along with fiscal policy, it is firmly recognized that it produces lasting effects on aggregate demand regardless of the mode of financing.

B. Neo-Keynesian advances of the crowding out controversy.

In the last two decades the crowding-out debate along neo-Keynesian lines has gone beyond the fixed-price IS-LM framework. One approach -the portfolio model- follows the ideas cultivated by Tobin since the early 1950s (Section I above). The research focuses on the bases of crowding out and crowding in in unemployment and full employment models. A second and more recent approach enriches the Keynesian tradition by employing the rational expectations hypothesis. The specification of forward-looking endogenous variables and the distinction between anticipated and unanticipated exogenous variables comes to modify the traditional method of analyzing fiscal policy effects. We review these lines of research in order to highlight their contribution to recent discussions on the role of public debt.

1. Crowding out in portfolio models.

Textbook expositions of crowding out generally refer to the case of transactions crowding out set up in a fixed-price IS-LM model.[9] The neo-Keynesian account of crowding out along the lines developed by Tobin and his associates results from the dissatisfaction with the standard IS-LM model and the conception of an alternative approach. The traditional aggregation of nonmonetary assets -equities and public debt- into a single one, with a

common interest rate, the interest rate, is criticized as opposed to actual institutional structures and policies. The perfect substitutability assumption between equities and public bonds is dropped and replaced by the principle of gross substitutability between assets. The new approach develops a concept of short run which allows asset accumulation: investment enlarges the capital stock, savings augment wealth, and government deficits amplify the stock of public debt. Current savings and financial flows are allowed to affect supplies and demands in asset markets. This is the proposed integration of saving and portfolio decisions (Tobin, 1979, 1982. Tobin and Buiter, 1980).

The portfolio approach develops a general equilibrium system of interdependence.[10] The system is designed to analyze the stock and flow effects of government fiscal and financial policies. Accordingly the endogenous variables are the real rates of return on capital and bonds, and the real output, (in the unemployment case), or the price level, (in the full employment case). The exogenous variables are given by the parameters of fiscal and monetary policies.

The short-run analysis focuses on the government spending multipliers for the unemployment and full employment cases. The main findings are as follows: First, whenever output increases in the unemployment model, the price level rises in the full employment case. Second, private investment is not only a negative function of the cost of capital, but a positive function of profits per unit of capital; the point is that the enlarged government spending stimulates sales and profits in the private sector, and the increased profitability prompts new investment. This fact proves to be crucial for the sign of the multipliers. When the increased government expenditure is fully financed by monetary expansion, crowding in results not only from a falling cost of capital but from a raising profit-capital ratio. Equally, when deficits are partially or completely financed by public bond issues, a likely increase in the cost of capital could be counteracted by positive effects of enlarged profits, thus rendering crowding in effects.

Third, in the full employment economy private spending is crowded out by government expenditure, one by one. When public bonds and equity are close substitutes, a bond-financed deficit increases the cost of capital and crowds out private investment; however, a money-financed deficit lowers the capital cost and promotes private investment at the expense of private consumption.

In the long run, crowding out and crowding in refer to the effects of changes in fiscal parameters on capital intensity. Crowding out occurs when after an increase in government expenditure, an economy moves from a steady-state equilibrium path to another one with a lower capital intensity. Two central results are offered. A deficit policy which leads to a higher inflation rate in the long run, crowds in capital; real interest rates are depressed and investors find attractive a major proportion of equities in portfolios, instead of money and bonds whose real return has been lowered. Alternatively, when a deficit policy leads to a lower long-run inflation rate capital intensity is crowded out by an accumulating public debt. As Tobin puts it: "In the background is the competition between capital and public debt for allocation of limited wealth" (1982, p.100).[11]

What is the position of the portfolio's literature regarding the overall contribution of neo-Keynesian analyses to public debt theories? If the government budget constraint literature discussed both short- and long-run effects of fiscal policies, and addressed the question of the method of financing of government deficits, the portfolio literature made explicit how flows (private saving, government borrowing) bring about changes in stocks (capital, government debt) and alter the portfolio composition. A crucial insight for interpreting the effects of changes in the stock of public debt on investment is the relative substitutability between assets; in this context, the same increase in government bonds could lead to crowding out or crowding in depending on the relative substitutability between bonds and capital as compared with the relative substitutability between bonds and money. Both the government budget constraint and the portfolio contributions preceded more recent expositions of the effects of fiscal policy on aggregate demand in models which incorporate the rational expectations

hypothesis: further insights in the neo-Keynesian discussion of crowding out and government deficits were possible in these models. We deal with these developments next.

2. Consequences on aggregate demand of anticipated future deficits.

We now address the crowding out discussion in a Keynesian framework with rational expectations. The reference is a standard IS-LM model with two important variations (Blanchard, 1981, Blanchard and Fischer, 1989): First, the interest rate is a dynamic endogenous forward-looking variable which can react freely at any moment in time. Its behaviour is explained through the expectations hypothesis of the term structure of interest rates, according to which the current long rate is a forward- looking average of current and future expected short rates.[12] Output is also a dynamic endogenous variable but its values at any time are predetermined. Second, the exogenous variables -monetary or fiscal parameters- are specified as either anticipated or unanticipated. The announcement and the length of the period until the implementation of an anticipated fiscal policy may prompt (recessionary) changes in aggregate demand.

In this modified IS-LM setting consider the case of an exogenous fiscal disturbance which takes the form of an anticipated budget balance increase in government expenditures. Agents know that an expanding output positively affect both profits and interest rates. Say that the "bad news" case applies in this example, namely, when interest effects overcome profit effects. The immediate reaction in the bonds market at the announcement of the policy is an upward "jump" of the long-term interest rate. Output starts reacting sluggishly and negatively to the increased long rate. As output declines short-term rates fall but long-term rates continue increasing in anticipation of higher future short term rates. When the policy is actually implemented, both output and interest rates raise until a new long-run equilibrium is reached, as expected in the standard fiscal analysis of the IS-LM model.

Now, what can be expected from anticipated bond financed deficits? The intertemporal arbitrage of interest rates works as in the previous illustration. The main difference with the former example is that the recessionary impact via interest rates is magnified by an accumulating public debt. In the balanced budget case the perverse effects on output are confined to the period between the dates of announcement and implementation of policies. In the bond financed deficit case the negative multiplier could also be transitory and disappear with the implementation of the expansionary fiscal policy. However, more extreme outcomes could follow as a result of expectations of high interest rates (Buiter, 1985).

Consider, for instance, the case of a permanent tax cut. Even if the policy is quickly implemented (or unanticipated), expectations of higher interest rates could prevent output to expand. This would be the case if the contractionary effect of the raised long rates on investment was strong enough to neutralize the expansionary effects of the actual tax cut. Thus, a full crowding out cannot be ruled out in this context, and it is also possible to expect a super crowding out if the recessionary effects of higher long interest rates more than offset the expansionary effects of fiscal policy. As far as capacity is endogenous, the contractionary effects could adversely affect not only investment in the short run but the capital stock in the long run.

What is the general message of these developments for the historical perspective of public debt theories? First, in the context of the IS-LM model it is shown how anticipated government deficits may result in a recession in the present. The clue of this process is the intertemporal arbitrage between short- and long-term interest rates. The higher is the proportion of interest-bearing bonds in the financing of the anticipated deficits, the more likely is that the interest rate effects on investment bring about negative multipliers. Second, it is revealed how potential contractionary effects of budget deficits depend on how information about the timing (anticipated or unanticipated) and lastingness (temporary or permanent) of deficit policies are perceived by the private sector.

In conclusion, the incorporation of forward-looking endogenous variables (the interest rate) in the closed-economy short-run IS-LM model shows how fiscal policies can affect aggregate demand even before their implementation. The crowding out discussion in models à la Blinder-Solow of the 1970s is enriched by indicating how private sector anticipation of higher interest rates discourages current investment.

C. Final comments and links with other sections of this work

In the early 1970s neo-Keynesian paradigms and policies were at the cross-roads. In the monetarist camp fiscal policies were dismissed for their destabilizing effect on private businesses, and in the emergent new classical school fiscal policies were classified as harmless and ineffectual. "Fiscal policy matters" was the common label of rejoinders over the decade.

One line of Keynesian counterattack discussed the long-term effects of budget deficits; this stream of literature enriched the earlier government budget constraint contributions. The common finding of these efforts was that economic effects of budget deficits depend on the run and method of financing. Another strand of literature extended the portfolio analysis of the late 1950s (Section I above). In this view financial markets are imperfect coordinators of the real processes of saving and investment, and government stabilization policies are called for to harmonize individual aspirations with collective objectives.

Neo-Keynesian views gained strength with the adoption of theoretical developments of the late 1970s and 1980s. The distinction between anticipated and unanticipated budgetary policies widened the understanding of the effects of budgetary changes on aggregate demand. Agents' expectations play a role in the design of fiscal policies. Credibility is an unavoidable component in this design. Anticipations of runaway deficits or debt repudiations threaten public confidence and may invalidate an expansionary policy.

Keynesians were quick to dismiss the unsustainability risk of accumulating public debt in the 1940s. Fifty years later there are reasons of credibility to oppose steady increases of the public debt to GDP ratio when economies are close to full employment. But, neo-Keynesians allege, even at the risk of some degree of crowding out, discretionary budgetary policies are a valid instrument of recovery in unemployment situations.

SECTION V

NOTES

1. A common assumption is that for a change in wealth -induced either by a bond expansion or a monetary expansion-, the change in the demand for money is proportionately less than the change in wealth.

2. As shown by B. Friedman (1978) it is crucial to distinguish between "transactions crowding out" and "portfolio crowding effects". The latter depends on whether bonds are closer portfolio substitutes for money or for capital. If bonds are more substitutable for capital than for money, the LM curve shifts leftward and portfolio crowding out adds to the transactions crowding out. On the contrary, if bonds are relatively more substitutable for money than for capital, the LM curve shifts rightward, and portfolio crowding in adds to the impact effect of fiscal policy. Finally, when the substitutability of bonds for capital and for money exactly offset one another, there are no portfolio crowding effects, and therefore the LM curve does not shift.

3. Tobin (1982) and Haliassos and Tobin (1990) question the accuracy of the claim according to which the absence of the government budget identity in the standard IS-LM apparatus constitute a "fatal flow". IS-LM analysis ignores stock-flow identities, it is alleged, given its "short-run" character. Regardless of the magnitude of the government deficit (a flow) it cannot change the stock of public debt. The approach follows Keynes's method according to which he was concerned with so short a period of time that changes in investment have negligible effects on the capital stock.

4. Neo-Keynesians advocate an indirect effect of changes in the quantity of money on spending through alterations of the cost of capital. So long as expansive monetary policies reduce the rate of return required by equity holders, investment is encouraged and spending eventually increased through the multiplier (Tobin, 1978). Monetarists describe a direct effect of monetary changes on spending. Individuals will transform in higher expenditure any excess of money balances caused by expansionary monetary policies. It is argued that neo-Keynesians restrict the transmission mechanism to a limited range of assets and rates. Monetarists emphasize that changes in interest rates after changes in the quantity of money affect a spectrum of spending far broader than the investment decisions of business firms (Friedman, 1987).

5. Currie notes that under G' (or G") open market operations should be followed by compensatory changes in G to offset the effects on debt interest payments.

6. Equilibrium in asset markets and government budget is given by E_O at the interest rate r_{EO} and output Y_{EO}. This equilibrium is unique. Dynamic stability requires that a small perturbation from E_O will result in a return to equilibrium. The directions of motion of DB and r (indicated by the arrows) are towards E_O: the system is stable.

7. The long-run multiplier obtained by diferencing (5) is $dY/dG' = 1/T$. This outcome means that the method of budget deficit financing does not count for the size of the long-run multiplier. It is the same result obtained by Ott and Ott (1965) and Christ (1968) according to which the multiplier is independent of the behavioural parameters of the economy. Christ (1979) criticizes this result, however, by arguing that it is obtained simply because the policy parameter is G'. Otherwise, with G or G" that result is not achieved.

8. The model is also extended to conditions of full employment and flexible prices. The short run can be described by adding a fixed-output supply into the standard IS-LM model. The

prospects for stability after a bond-financed deficit are gloomy simply because given a fixed productive capacity the tax base cannot react to compensate for the higher public debt service costs. Stability is possible only if the price level increase is enough to reduce the real value of those costs by the amount of the deficit. In the long run, output is endogenously determined through capital deepening; in this context, the restitution of budget balance after a bond-financed permanent increase in G' requires the expansion of the capital stock, and therefore a reduction of real interes rates. Investors will react by demanding a larger amount of real balances, but given the constancy of the money supply, prices will fall. Then, in opposition to the short-run description, interest rates and prices fall in the long run.

9. In a simple model in which consumption depends on disposable income and investment on interest rates, an income tax cut encourages consumption demand and stimulates a higher output. Interest rates increase to keep money demand in balance with an unchanged money supply, and private investment is crowded out. A second case is illustrated by a fiscal expansion which is transmitted through an investment subsidy. This time, both consumption and private investment are encouraged, and output increases. However, given an unchanged money supply interest rates will also be higher. The first case illustrates how crowding out of private investment develops within a restrictive monetary policy. The second one shows how in an unemployment economy investment- oriented fiscal policies yield a higher private investment even at higher interest rates (Dornbusch, 1987).

10. Three relationships give the essence of the model. These are the market equations for money, bonds and equity. In the open economy case there is a fourth equation, this time for foreign exchange. Wealth accumulation and portfolio management define the specification of the asset demand functions. Two economic environments are considered: an unemployment economy and a full employment economy. While the former implies an economic slack which is responsive to aggregate demand, the second describes a state of market clearing equilibria. Two horizons are discussed: the long run in which the system completely adapts to current policies and stocks grow at the same rate of the economy, and the short run in which markets do not fully adapt to existing policies, with asset supplies not completely adjusted to long-run demands.

11. Whether a deficit policy leads in the long run to crowding out or crowding in depends on the system as a whole. The gross substitutability principle is insufficient to guarantee unequivocal results and predictions are subject to the empirical knowledge of assets supply and demand equations.

12. Blanchard (1981) uses the market valuation of assets, q (the Tobin's q) as the endogenous 'free' variable. Fair (1979) uses the long-term bond rate R and applies the expectations theory of the term structure. According to this theory the yield obtained from an n-period bond equals the expected yield from holding a series of one- period bonds over the n-periods. If expected future short-term rates are given by $E_t r_{t+j}$, the bond market is in equilibrium when

$$(1+R_t)^n = (1+r_t)(1+E_t r_{t+1}) +\ldots +(1+E_t r_{t+n-1})$$

Because the $E_t r_{t+j}$ are unobserved values, an assumption about the way expectations are formed is required to apply the theory. At this point the rational expectations assumption is introduced.

SECTION VI

New-classical contributions to the theory of public debt.

Introduction

The economic prosperity of the mid-1950s to mid-1960s which served as a background to neoclassical economic growth theorizing (Section III above) was no longer in place as of the mid-1970s. OECD countries were already experiencing much lower GDP growth rates than during the first twenty five years after World War II, a trend which would continue through the 1980s. A steep rise in unemployment rates affected major European economies and the United States since the first half of the 1970s, and particularly European countries in the first half of the 1980s. As for inflation rates, they accelerated since the early 1970s with outstanding peaks in the mid-1970s and the beginning of the 1980s, before declining through this last decade (Matthews and Bowen, 1988).

What was the reaction of the economics profession to these events? Economists felt that structural Keynesian models constructed during the 1950s and 1960s performed poorly when trying to explain the new economic trends in OECD economies. Further, the Keynesian program which had prevailed for three decades became the subject of a strong criticism spearheaded by leading exponents of the rising new-classical macroeconomics. A central component of that criticism was the "policy ineffectiveness" proposition according to which provided that expectations are rational and money illusion is absent, demand management policies will be ineffectual in affecting output growth rates (Lucas, 1973; Sargent, 1973). Altogether, the unprecedented conditions of the 1970s and the challenges to the Keynesian research program left the idea that a reappraisal was required.

The policy ineffectiveness proposition resulted from the new-classical criticism of standard aggregate macromodels. But it is at the heart of new classicism that sound economic conclusions should be derived from explicit microfoundations. This section is about a new-classical micromodel which develops the notion of policy ineffectiveness in government finance. The central reference is the Barro (1974) statement of the debt neutrality proposition.

As seen before, particularly in sections II and III, debt neutrality is an issue of long tradition in economic analysis. Nonetheless, for a variety of reasons the Barro (1974) contribution is an outstanding landmark in the historical perspective of public debt theories. The author attacked the crucial assumption of the neoclassical synthesis according to which an increase in government debt leads, at least in part, to an increase in the perceived household wealth. Since this assumption is vital in the neoclassical synthesis for demonstrating a positive effect on aggregate demand of bond financed deficits for a given amount of government expenditure, Barro thought to have demolished the theoretical basis for the textbook effects of bond financed fiscal policies on output, interest rates and investment. As for the framework applied, Barro constructed the first fully developed microeconomic model for the discussion of debt neutrality within the basic tenets of new classicism, namely, consumers are always in equilibrium, hold rational expectations, and make decisions according to real variables. Further, a wealth of contributions followed Barro's seminal and controversial essay. Although generally offering alternative and conflicting results regarding debt neutrality, they share common elements in the design of a modern neoclassical theory of public debt.

The basic debt neutrality model and important extensions and criticisms of it are discussed in subsection A. One important departure from debt neutrality which is relevant for the econometric sections of this work is the tax smoothing theory. We dedicate subsection B and a great deal of subsection C to examine this theory. Finally in subsection D we show how the

contents of this section are useful for our empirical and historical reflections in parts III and IV.

A. The debt neutrality proposition.

Our first concern in this section is the controversy about the debt neutrality proposition. We start by presenting a brief review of this proposition as expounded by Barro (1974) and discuss how it relates to other theoretical developments on public debt. Next, various issues which are thought to affect debt neutrality are considered. These issues summarize the main debates on the subject during the last two decades.

1. The basic model

Barro (1974) essay covers different angles of the controversy about real effects of shifts in the stock of public debt. The basic contribution is an OLG model where individuals have finite lives and capital markets are perfect. Its characteristics can be summarized as follows:

First, each generation lives two periods: the productive years and the retirement period. The model is static with the same number of individuals in each generation, homogeneous tastes and productivity. This is a departure from Samuelson (1958) and Diamond (1965) who built up dynamic models.

Second, as in Diamond (1965) a neoclassical production function with constant returns to scale is postulated. Firms maximize profits when the marginal productivity of capital and labor are equal to the rental rate on capital and the real wage, respectively. As we saw in Section IV, the optimization problem of individuals in the Diamond model consists in maximizing the utility derived from consumption in the two periods of life; it is assumed that individuals consume all their wealth -principal and interests- in their retirement period: there

are no bequests. By contrast with this model, the key element in Barro's contribution is the existence of a chain of operative intergenerational transfers.

There exists intergenerational concern. In the simple case of two generations, the consumption of the old is determined not only by assets accumulated during the productive period, but by assets inherited from the previous generation, and also by returns obtained from the provision of a bequest in favour of the young generation. The concern about future generations is modeled by considering that a member of the old generation includes the attainable utility of a member of the young generation as an argument of his own utility function. At this point a crucial restriction rules out the existence of negative bequests.

Third, government debt is introduced in the model under the assumption that bonds and capital are perfect substitutes in households portfolios. Government bonds are sold in a perfect capital market, and the proceeds finance a lump-sum transfer to the old generation. It is assumed that government levies two lump-sum taxes on the young generation; one during her productive period to finance the current interests, and another one during her retirement to finance the principal. Since the transfer to the old is exclusively financed by the young, the net value of a bequest in favour of the latter depends on the size of the debt. In these conditions, the problem of a member of the old generation is the optimal choice of the net bequest. A marginal change in government bonds will be offset by a change in the bequest provision, preserving the original value of the net bequest, and therefore insulating consumption from changes in public debt.

In brief, the novelty of the model and the source of its crucial results is the consideration of operative intergenerational transfers. So long as this link between generations exists, finite-lived individuals act as if life was infinitely lasting. Any marginal change in public debt is exactly compensated by a change in bequest provisions so as to keep the value of the net bequest inaltered. The existence of marginal net wealth effects of government bonds on aggregate demand and interest rates is absolutely ruled out.

So far, how does this model fit in our historical perspective of public debt theories? First, the model is developed in the wake of the neoclassical tradition inspired by Samuelson (1958) and Diamond (1965) who discussed the behaviour of life-cycle savers in the context of simple OLG models. The new model, however, offers important contrasts with established LCH models. Instead of intergenerational selfishness the new model postulates intergenerational concern through operative intergenerational transfers; it is these latter which makes it possible that finite-lived agents behave like if they were infinite-lived. This upshot not only differs from the distinguishing finitness of life of LCH models (Section IV above) but coincides with characteristic results obtained from infinite-horizon models (Section III above). As in the latter models, the new model concludes that budget deficits simply defer taxes and therefore there is no role for public debt.

Second, the rejection of wealth effects of changes in government debt on aggregate demand contradicts the vision common to both the neoclassical synthesis (Section I) and neo-Keynesian thinkers (Section V). These lines of thought accepted that future taxes required to finance the debt service of current budget deficits would only partially offset the positive wealth effects of an increased stock of debt.

Third, the neutrality of changes in public debt formally derived in the model under discussion has conspicuous precedents in the Ricardo's writings of the early 19th century and the Buchanan's criticisms of the public debt literature in the late 1950s (Section II above). Buchanan (1976) created the expression "Ricardian equivalence theorem" to refer to the alleged equivalent effects on the economy of budget deficits and taxation which he found in Ricardo's contributions and in the Barro (1974) model.

The debt neutrality proposition has been a subject of intense controversy during two decades. We now trace the debate concentrating our attention on three outstanding theoretical topics: the concept of operative intergenerational transfers and finite horizons; capital markets and

liquidity constraints; and, the uncertainty associated with future taxes and incomes. These topics are crucial because they point to the conditions under which the debt neutrality proposition holds. Additionally, recent debate on these matters have focused on the consistency of the original assumptions of the Barro model rather than to explore possible departures from those assumptions. Finally we present a brief review of central lines of empirical work on the debt neutrality proposition.

2. Intergenerational transfers and finitness of the individual horizon.

We start by reviewing recent analyses motivated by Barro's original concepts of altruism and dynastic families, as well as new developments on the concept of finitness of the individual horizon.

a. Altruism. The concept of operative intergenerational transfers.

The first point to be stressed is the notion of altruism and the conditions under which intergenerational transfers are operative. The original statement appears in Barro (1974): "...the crucial consideration for the above result [the debt neutrality proposition] is an operative intergenerational transfer, rather than an operative bequest motive per se. For example, the transfer could take the form of parental expenditure on children's education, etc., during the overlapping tenure of parent and child. Further, the transfer could be occurring in the direction opposite to that specified above (from the old to the young generation). In that case the same conclusions on the effect of a change in the government debt would be reached if a 'gift motive' were operative..."

This broadly defined altruism requires the existence of an interior solution for intergenerational transfers, that is, most people must be out of corner solutions of zero transfers. The word 'operative' denotes that equilibrium transfers are determined by tangency conditions instead of corner solutions where agents could opt, if allowed, for negative

transfers. The previous quotation indicates that when either a bequest motive or a gift motive are operative the debt neutrality proposition holds. This is the so-called two-sided altruism.

Some authors like Weil (1987a) have studied the conditions under which bequests (one-sided altruism) are operative. Weil analyzes the case of an exchange economy as well as the case of a production economy. For both two cases the conclusion is similar: when an economy without bequest motive (such as the production Diamond economy) is characterized by dynamic inefficiency -when the rate of interest r is lower than the rate of population growth n- bequests cannot be operative in the same economy with a bequest motive. With $r<n$ positive bequests would lead to a Pareto inferior allocation. Intergenerational transfers would go the other way round, from the young to the old, in order to reach a Pareto superior allocation. Alternatively, dynamic efficiency of the economy without bequests is a necessary condition for the debt neutrality proposition to be applicable to an economy with a bequest motive.[1]

Abel (1987) and Kimball (1987) analyze the conditions under which gift and bequest motives are operative. As pointed out by Abel, the fact is that in steady state equilibrium either the bequest motive or the gift motive is operative, or neither motive is operative; in this last case, a change in the timing of taxes has real effects and the debt neutrality proposition fails. Kimball focuses on the question of whether two-sided altruism guarantees debt neutrality results, and from the first order conditions for the maximization of altruistic utility by an agent the following conclusions are obtained[2]: First, there is a positive interval in which the steady-state interest rate can fall (this interval includes the golden rule interest rate). When this happens, neither the bequest nor the gift motive are operative even when altruism is considered. It follows that the economy will react to changes in the timing of taxes and the debt neutrality proposition fails. Second, in a non-altruistic economy (like the Diamond economy) when the interest rate is outside the interval just mentioned the addition of altruism can lead the economy to one of the boundaries of such interval: in the efficient case ($r>n$)

bequests will be operative, and in the inefficient case (r<n) gifts will be operative. In either case, the debt neutrality proposition holds.

Analyses like these ones due to Weil and Kimball have the merit of establishing the cases in which the debt neutrality proposition fails without adding any of the issues that bring about non-neutrality such as distortionary taxes. Particularly, Weil showed how in a Diamond economy with dynamic inefficiency the bequest motive is "too weak" and public debt non-neutral (as we saw in Section IV, the oversaving in the economy is reduced by the issue of public bonds). And Kimball demonstrated that even the consideration of two-sided altruism does not in all cases guarantee the applicability of Barro's debt neutrality proposition.

b. The dynastic assumption questioned

In Barro's view, "a network of intergenerational transfers makes the typical person a part of an extended family that goes on indefinitely" (1989a, p.40). In this context the "typical person" plans with an infinite horizon perspective. Some authors like Bernheim and Bagwell (1988) consider the notion of a dynastic family as highly unrealistic. It is argued that the propagation of human species creates not single but complex networks in which unrelated individuals share common descendants. Eventually, every person would be interconnected through these complex parent-child linkages. In this context, all government transfers are irrelevant because they simply redistribute resources between interconnected persons; only by changing real expenditure can the government affect the allocation of resources. In the end, the proliferation of linkages between families result in more severe neutrality properties under weaker conditions than those required by Barro. The debt neutrality proposition appears to be a particular case of a more implausible neutrality theorem.[3]

These considerations have immediate implications for the discussion of corner solutions. In Barro (1974) most people must be away from these solutions. Under Bernheim and Bagwell analysis of altruistic linkages, since individuals eventually form part of a single

interconnected network, consumption does not depend on the distribution of resources but on aggregate wealth. Since any increment in wealth is divided between the entire population, an incremental bequest will be divided between all the individuals other than the donor; with a large population the effect on the recipient's consumption is negligible. Consequently, a potential donor will prefer to make no bequests at all, with the implication that in equilibrium a large number of these potential donors will end up at corner solutions.

What is the originality of these kind of analysis in terms of the controversy of the debt neutrality proposition? Earlier critics like Tobin and Buiter (1980) concentrated on the discussion of "realistic departures from Barro's assumptions" like childless households in each generation or people who do not care about their children's well-being. The method employed by authors like Bernheim and Bagwell is different. They examine the internal consistency of the dynastic framework idea, and after offering the considerations presented before conclude that such a framework is not a "suitable abstraction" for the discussion of public debt and other policy issues.

c. A strategic motive for bequests?

Barro's linkage hypothesis is based on the consideration that intergenerational transfers are motivated by altruism. Alternative motives like tastes for generosity or intrafamily exchanges have been considered in the related literature; one general result of these efforts is the absence of neutrality effects (Bernheim, 1987). Intergenerational transfers is a complex phenomenon which cannot be encapsulated in a single analytic model. Bernheim, Shleifer and Summers (1985) develop a strategic motive for bequests as a supplement to intergenerational altruism. This formulation preserves Barro's idea of ancestors and descendants linked by voluntary utility-maximizing transfers, but challenges the concept of families as "perfect harmonious units". The point is that "parents would prefer to receive a gift to having their children receive an equal gift, even when they care about the utility of

their children and make transfers to them" (p. 1073). The notion of conflict and exchange motives plays a central role.

Which are the implications of the strategic bequest motive for the debt neutrality controversy? In a non-strategic environment parents have no need to manipulate their child's decisions, and any forced transfer between generations (such a budget deficit) will not affect their levels of consumption. In this case the debt neutrality proposition holds.[4] In a strategic environment parents care about the well-being of their children but also require some specific behaviour from their children. In order to get more attention, parents would offer larger transfers to the children. Parents can take the initiative and design a credible threat in terms of bequests to motivate the children to perform properly. When the threat is at least enough to encourage the desired behaviour, the debt neutrality proposition holds: in case of a budget deficit the parents' transfer to the children will keep their utility level and enforce the required behaviour. The outcome is different when for the threat to be effective the children must be offered a higher utility level: parents must dedicate a larger portion of their wealth to capture an extra attention from children. In this case a budget deficit allows parents to reduce the utility level of children while enforcing the desired behaviour: the debt neutrality proposition does not hold.

In conclusion the strategic bequest motive challenges the notion of families as harmonious units. At least, it can be viewed as a supplement of the notion of intergenerational altruism. In this context the debt neutrality proposition may or may not hold. Although Bernheim, Schleifer and Summers recognize that it is difficult to distinguish between different bequest motives they develop an a priori case for strategic motives and offer some empirical results that support the idea that strategic actions explain an important deal of behaviour at the margin. The implications of this approach for the effect of government indebtedness on capital accumulation are reported as similar to the standard implications of life-cycle models. Barro (1989) criticizes this device because it treats family relationships as equivalent to

"purchases of services on markets", and then, opts for an approach in which altruism goes along with strategic actions. As seen, the debt neutrality proposition may or may not hold.

d. Finiteness of the individual horizon

The OLG model due to Samuelson (1958) and applied to public debt analysis by Diamond (1965) is characterized by the existence of individuals with finite horizons. There are neither gift nor bequest motives, and debt neutrality does not hold. In the OLG due to Barro (1974) finite-lived individuals behave as agents with infinite horizons because of the existence of operative intergenerational transfers. At the end of the 1970s the discussion about debt neutrality depended very much on the contraposition of these two frameworks.

In the mid-1980s, Blanchard (1984, 1985) applied to fiscal policy issues the uncertain lifetime approach due to Yaari (1965), as we saw in Section IV. In this framework there is a constant instantaneous probability of death of each individual, (p), with p=0 or p>0; with p=0 the framework reproduces the debt neutrality results of infinite-horizon models, and with p>0 the framework conveys the debt nonneutrality characteristic of life-cycle models. Both the finite-horizons and uncertain-lifetimes (p>0) approaches predict nonneutral effects from changes in public debt. By 1985 it was understood that in order to get debt nonneutrality it was necessary to work with the finite horizon and the uncertain lifetimes frameworks.

A step forward due to Weil (1987b) showed that even if families have infinite horizons there will be no debt neutrality so long as there is a positive rate of birth of new infinite-horizon families, and there are no operative intergenerational transfers. It was no longer necessary to depend on finite horizons and uncertain lifetimes in order to produce debt nonneutrality. Weil's model is a hybrid of the Sidrauski (1967a) framework and the OLG model in which new and infinitely-lived families continuously enter the economy. An essential concept is the economic disconnectedness which refers to the creation of new families which are not linked to previous ones through operative bequests.

Buiter (1988) showed how Blanchard's result that uncertain lifetimes generate debt nonneutrality, and Weil's result that the rate of arrival of new families alone also yields debt nonneutrality are special cases of the Yaary-Blanchard model generalized to allow for population growth and productivity growth. In this general framework, Buiter finds how debt neutrality requires a rate of arrival of new families equal to zero; furthermore, with this rate at zero, there will be debt neutrality even if there are uncertain lifetimes. The message is that governments can tax the resources of agents currently alive but also those of agents yet to be born. A current deficit created by a postponement of taxes means that part of those taxes will be paid by new families not linked to the existing ones through bequest considerations.

The foregoing discussion shows the changing importance of the concept of finiteness of individual horizons for generating debt nonneutrality; contributions of the late 1980s concluded that it was not a necessary prerequisite. Additionally, it was found that economic disconnectedness, and not uncertain lifetimes, is the key factor responsible for life-cycle results in the Yaari-Blanchard framework.

e. Conclusions

The debate around the intergenerational transfers issue allows us to make some general conclusions. First, it is not necessary to seek for departures from the original assumptions to obtain results against the debt neutrality hypothesis. The internal "criticism" of the original assumptions has the merit of challenging the robustness of those assumptions for the controversy of public issues. Second, even under the original Barro's framework the debt neutrality results are not always guaranteed. Additionally, new approaches have been conceived to supplement the Barro's intergenerational altruism; under these frameworks the debt neutrality proposition does not necessarily apply. Finally, recent research has stressed the crucial importance of disconnectedness to generate life-cycle results in the Yaari-Blanchard model.

3. Capital markets and liquidity constraints.

Barro (1974) acknowledges -though sceptically- that when capital markets are imperfect, a debt financed tax cut increases net wealth provided that the government as a financial intermediary is more efficient than the private sector. As seen in Section I above, early discussions concentrated on the transactional costs associated with the collection of loans; as a more efficient performance of the government in this function is equivalent to a technological innovation in financial markets, a higher public debt will be perceived as an addition to net wealth (Mundell, 1971).

Keynesians challenge the notion of perfect capital markets by recalling that a significant part of society is liquidity constrained. This means that these sectors of society will not be indifferent to a change in the timing of taxes: "In effect the government lends to them at its borrowing rate of interest, an option not otherwise available in the credit market" (Tobin, 1980, p.57).

How important is the argument of liquidity constraints for the validity of the debt neutrality proposition? Its significance has been evaluated in recent research using life-cycle simulation models. Hubbard and Judd (1986) compare results obtained for the simulated marginal propensity to consume out of a tax cut under different contexts -a perfect capital markets regime and a liquidity constrained regime-. While under the first context the result is not higher than 5%, under the second regime it reaches 24%. These results are interpreted as illustrative of the departure from debt neutrality due to capital market imperfections.[5]

Poterba and Summers (1987) go further inquiring for the quantitative importance of intergenerational linkages in the analysis of short-run effects of budget deficits on savings. The results obtained from simulations with a life-cycle model suggest that substantial fractions of debt constitute net wealth, and that a large burden of debt is transferred to future

generations. However, it is shown that deficits bring about small changes in consumption; this result is explained as determined by a small average propensity to consume out of wealth (Life-cycle models predict small MPC for all but the oldest consumers). The striking point in terms of modelling is that the small change in consumption is not far from the results obtained in infinite horizon models where consumption is invariant to deficit policies. Poterba and Summers conclude that the differentiation of life-cycle models from infinite horizon models for the analysis of short-run effects of budget deficits is of no practical importance. However they discard the applicability of infinite horizon models to predict the impacts of alternative policies because of their strong and 'unrealistic' requirement that individuals are neither myopic nor liquidity constrained.[6]

Following a different line of research, liquidity constraints have been considered as an endogenous facet of equilibrium. It is argued that liquidity constraints change in response to government policies, and that these private responses could secure the validity of the debt neutrality proposition. Yotsuzuka (1987) discusses this matter under adverse selection conditions in the consumer loan market. Alternative models are developed to answer the question whether or not informational asymmetry offers a theoretical basis for rejection of debt neutrality.

It is shown how in a competitive environment in which there is no communication between lenders, a debt financed tax cut actually relaxes existing liquidity constraints. In this case the debt neutrality proposition does not hold.[7] Things are different in a context where lenders have incentives to share or not to share information about their customers. It is shown how in equilibrium some lenders will offer loans which pool various risks, and how in the case of a tax cut those lenders will adjust the size of the pooling contracts leaving the whole market unchanged. In this situation the debt neutrality proposition applies in full.[8] The key for debt neutrality to hold in these models is the degree to which customer information is shared between banks. In a broader sense, what is under controversy is the validity of informational imperfections as an argument against the debt neutrality proposition.

To sum up, the existence of liquidity constraints has been considered an important argument in the discussion of the departures from debt neutrality. Additionally, the traditional objection according to which debt neutrality requires perfect capital markets has been challenged. It is argued that liquidity constraints respond endogenously to changes in fiscal policy, and according to the particular characterization of financial markets the neutrality of debt may or may not hold. But, after all, the general conclusion at the end of the 1980s resembles the conclusions at the end of the 1960s: debt neutrality effects do not follow when governments as financial intermediaries act in a different and more efficient way than the private sector.

4. Taxes and uncertainty.

In an early criticism, Tobin and Buiter (1979) consider the debt neutrality proposition as an extension of the Modigliani-Miller theorem of finance theory "from the household sector vis-a-vis the corporate sector to the private sector as a whole vis-a-vis the public sector" (p.40). In a further criticism, the same authors debate Barro's assumption according to which "government securities are a perfect hedge against tax liabilities, so that the introduction of both into a portfolio would change neither its expected return nor its risk". And then, they comment: "Given the uncertanties about when, how, and on whom future taxes will be levied, and about future issues of debt to refund maturing issues or finance new deficits, it is hard to see how so perfect a hedge against all contingencies could be constructed".

The same discussion in a context of uncertainty is raised by Chan (1983) who discusses three different scenarios, the first two related to lump-sum taxes and the third one to income taxation. The first one is characterized by the following assumptions: taxes are lump sum and their incidence is known and constant over time. Additionally, public and private bonds are perfect substitutes, namely, public debt does not open new trading opportunities because it is replicable by some combination of private bonds. Under these assumptions, it is examined

whether the uncertainty about the aggregate level of future taxes and the real value of future payments on public debt upsets the debt neutrality proposition. It is shown how any uncertainty about future taxes is removed by the acquisition of the appropriate quantity of public bonds. Public debt works as a perfect hedge against uncertainty, and the debt neutrality proposition holds.

The second scenario is characterized by the introduction of uncertainty about the future incidence of taxes. This means that a household share of the current tax-cut may not match its share of the future tax increase. Ignoring the existence of insurance markets against relative tax risks, changes in individual tax shares introduce a wealth redistribution risk at the individual level. In these conditions a current tax cut creates uncertainty about future disposable income, and under conventional restrictions on individual preferences (a constant absolute risk aversion utility function) leads to a reduction in present consumption.[9] This upshot runs against the Ricardian invariance of consumption but also against the prediction that consumption should increase after a tax reduction.

In the third scenario taxes are allowed to vary with income. This case had been seen by Barro (1974) "like a public program of income insurance" (p.1115). The basic point is that taxes positively correlated with income reduce the variability of disposable income, then stimulating current consumption. This is the so called risk-sharing effect on consumption because the government shares individual risks about future disposable incomes. Barsky, Mankiv and Zeldes (1986) go further, finding that the MPC out of a tax cut, with associated future income taxes is probably to be large. By using plausible estimates of the parameter values it is shown that the MPC is similar to the MPC of a life-cycle model which ignores future tax liabilities. The large MPC is explained to be due to the reduction of precautionary saving when the government provides an insurance -the reduced variance of future incomes- not available in private markets.[10] In this case the debt neutrality proposition fails.

In the end, uncertainty effects derived from tax changes are not unequivocal: income insurance and income redistribution are common elements in tax systems. When the former dominates uncertainty dilutes and a tax cut stimulates consumption. Opposite results obtain when income redistribution effects are predominant. In both two cases the debt neutrality proposition fails. In conclusion, even if financial markets are able to reproduce the characteristics of public debt, factors associated with uncertainty about future incidence of taxation and risk-sharing create departures from the debt neutrality proposition. Budget deficits would lead to higher current savings if uncertainty increased, but would encourage consumption in the opposite case.

5. The neutrality of public debt: an empirical issue.

Contenders in the public debt neutrality debate agree that the subject is eventually an empirical one. Most studies have concentrated on the evidence of effects of fiscal policies on consumption, interest rates and the current account balance. Limiting the attention to empirical studies of fiscal effects on consumption, three approaches can be distinguished: the standard approach, the intertemporal approach, and the natural experiments approach.

In the standard approach, aggregate consumption is regressed on government expenditure, taxes, public debt, wealth and other variables which are specific to individual analyses. Different specifications which illustrate this approach are offered by Feldstein (1982), Kormendi (1983), Seater and Mariano (1985), Bernheim (1987) and Modigliani (1987).[11] A characteristic outcome of these studies is the absence of a conclusive answer in favour or against the debt neutrality proposition. The endogeneity of taxes and other fiscal and macroeconomic variables is a common problem of these studies generally based on time series analysis.

The intertemporal approach follows the line of empirical analysis of the consumption function opened up by Hall (1978). Different contributions emphasize that an intertemporal

stochastic method is the most appropriate procedure to test the validity of the debt neutrality proposition. General illustrations of this approach appear in Aschauer (1985), Leiderman and Razin (1988), Poterba and Summers (1987), and Haque (1988).[12] The Euler equations specified in these studies are based on the fundamental assumption required by the debt neutrality hypothesis to hold, namely, that individuals maximize intertemporal utility and form expectations rationally. Some limitations have been mentioned, however. It is argued that the debt neutrality hypothesis may fail for reasons that do not contradict the Euler equation specification, for instance, when consumption plans are formed rationally but there is myopia about the links between current deficits and future taxes. (Bernheim, 1987)

The natural experiments approach has been favoured in recent years. After a decade and a half of empirical efforts, Barro (1989) has expressed his disappointment with econometric results that "are all over the map, with some favouring the Ricardian equivalence, and others not" (p.49). The simultaneity between consumption and income, and the endogeneity of budget deficits appear to be the reasons for these disenchanting results.[13] Barro underlines the importance of episodes in testing debt neutrality: "..., I regard as more reliable some results that exploit situations that look more like natural experiments" (p.49). The method has been applied to the study of so-called "controlled experiments" historically provided by different countries. Examples are offered by Barro (1989), Carroll and Summers (1987) and Poterba and Summers (1987).[14] Although the approach cannot offer quantitative estimates of the effects of alternative policies, it does represent a more flexible way to explore institutional factors which cannot be encapsulated in representative agent models.

6. Where do we go from here?

We started this section with a bare description of the Barro (1974) model and the place of the debt neutrality proposition in an historical perspective of public debt theories. Then we laid out the issues which have conveyed the main "internal" criticisms of the proposed debt neutrality, and reviewed empirical approaches. In the remainder of this section we examine

the development of a theory of public debt commonly known as the tax-smoothing theory. The modern developments of this theory are related to specific departures from the Barro model which consider the implications of distortionary taxation. We devote a good deal of attention to the tax smoothing theory not only for its contribution to the public debt literature but because it will receive central consideration in our econometric discussions in Part III.

B. Optimal taxation and public debt: the tax smoothing theory.

A major assumption in the derivation of the debt neutrality proposition is that taxes are lump sum. There exists, however, a vast array of taxes which are likely to be distortionary (for instance, personal and corporate income taxes). In these conditions a change in the timing of taxes affects personal and corporate incentives to work and produce in different periods, namely, government deficits bring about non-neutrality effects. Recent discussion of these topics has extended the theory of optimal taxation from static to dynamic frameworks. The result for the public debt debate is that public debt becomes part of the theory of optimal taxation. This subsection reviews the development of these ideas which have received formal expression in the tax smoothing theory of deficits. We concentrate on two central issues: dynamic efficiency and time-consistency.

1. From static to dynamic efficiency.

The central question was posed by Ramsey (1927) in the following terms:

> "The problem I propose to tackle is this: a given revenue is to be raised by proportionate taxes on some or all uses of income, the taxes on different uses being possibly at different rates; how should these rates be adjusted in order that the decrement of utility be a minimum?" (p.47)

Ramsey focuses on efficiency considerations abstracting from distributional questions. The subject of analysis is a static economy with identical consumers and many goods. The government intends to collect a given revenue by choosing a tax structure which maximizes

the welfare of a "representative" consumer. From this optimization problem it is found that following a tax change the proportionate reduction of demand should be the same for all commodities.[15] Additionally, it is proved that the tax rate as a percentage of the consumer price can be expressed as an inverse function of the price elasticity of demand. Then, deviations from the rule of uniform proportional reduction must be found in unequal price elasticities. The efficiency criterion imposes higher tax rates on the commodities with lower price elasticities of demand as a way of minimizing deviations from the nondistortive original allocation.[16] A normative conclusion of these findings was offered by Pigou in the 1920s:

> ".. the best way of raising a given revenue, ..., is by a system of taxes, under which the rates become progressively higher as we pass from uses of very elastic demand or supply to uses where demand or supply are progressively less elastic" (1947, p.105)

The extension of this analysis to the study of fiscal policy over time is due to Pigou, too:

> ".. the rates of taxation may be kept steady where the income of the people is steady,... where the income of a country fluctuates, it may similarly be legitimate to meet fixed running expenses by a succession of budgets with surpluses and deficits that cancel. For, with different incomes, to maintain the same budget revenue would necessitate tax rates varying inversely with prosperity." (p.36)

In the last decade and a half these concepts have evolved and being formalized in the context of the tax smoothing theory of deficits; in this framework the Ramsey rules for setting tax rates in a static economy with many goods are applied in an intertemporal context. Instead of having many goods being taxed at one date, there is a composite commodity being taxed at different dates. The formal exposition of the theory which has served as a common reference for recent contributions is due to Barro (1979).

How does the recent exposition of the tax smoothing theory fit into the historical perspective of public debt theories? The theory formalizes the departure from a world of debt neutrality when lump sum taxes are not available. In this second-order world, the theory aims to determine the optimal timing of taxes which in fact gives the optimal trajectory of budget deficits. Since the theory comes out from a departure from a world in which debt neutrality

holds, there is no room for discussions such as crowding out of private investment or debt burden on future generations which are central to other public debt theories (Barro, 1979, 1989a, 1989b).

The tax smoothing theory incorporates a concept of the role of tax changes which contrasts with earlier paradigms such as the Lernerian and traditional Keynesian expositions according to which tax changes affect the current flow of disposable income and therefore aggregate demand. In earlier frameworks, income and wealth effects play a predominant if not exclusive role. In the tax smoothing view tax changes affect economic activity by altering the incentives to involve in market activities like consumption, employment and production. Intertemporal substitution effects are crucial in this context. For instance, an expected increase in future income taxation encourages current and discourages future work, and also raises current and reduces future investment (Frenkel and Razin, 1987).[17]

How does the modern presentation of tax smoothing solve the problem of determining the optimal timing of taxes? The earliest discussion (Barro, 1979) does not follow the literature on optimal taxation but concentrates on the costs linked with the collection of tax revenues.[18] The optimal timing of taxes is that which minimizes the present value of the tax collection costs corresponding to the present value of taxes implied by the government budget constraint. The solution to this optimization problem requires that the marginal collection costs of an increase in taxes be constant over time. Since in his original discussion Barro specified a first degree homogeneity between tax collection costs and real income, the optimal solution implies a constant planned average tax rate.[19]

Further contributions explored whether labor-income taxation was likely to be uniform across time; general equilibrium analyses showed that this was not always the case (for example, Aschauer and Greenwood, 1985). This result led to the conclusion that the constancy of tax rates over time is not optimal in general (Barro, 1989a, 1989b). This conclusion however does not hazard the crucial observation of the theory that budget deficits

may be used to smooth tax rates over time and over the business cycle: budget deficits will appear during recessions, to be replaced by budget surpluses during booms.

Since we dedicate a good deal of attention to tax smoothing in our econometric discussion in Part III, we just mention central implications of the theory for public debt analysis. Consider first the following equations for the change in the stock of debt and for the average tax rate (Barro, 1986):

$$d/dt(b) = Db = g + rb - \tau y \qquad (1)$$

$$\tau = [g^* + (r-n)b]/y^* \qquad (2)$$

where Db is the current deficit, g is the exogenous deterministic real government expenditure, y is the real taxable income, τ is the stabilized average tax rate, n is the trend value of real GNP, and g*, y* are the current normal values of g and y.[20] Equation (2) shows that the average tax rate is determined by the ratio of the normal value of g to the normal value of y, where the former is affected by the difference (rb-nb), namely, the real interests on the outstanding debt excluding the amount financed with the normal increase of real debt.

Substituting from (2) into (1) and rearranging terms a new expression is obtained for the budget deficit:

$$Db = [1 - y/y^*][g^* + (r-n)b] + (g - g^*) + nb \qquad (3)$$

Equation (3) summarizes the implications of the theory. First, when output and government expenditures grow at their normal values (y*, g*), the stock of real debt grows at the rate of the economy n, which implies a constant debt-output ratio. The theory does not define any values for the level of debt or its ratio to output, but requires that in the absence of shocks on y and g the government runs a deficit equal to nb; otherwise, interest payments will raise or fall relative to output in a way that is inconsistent with a stabilized average tax rate in equation (2).[21]

Second, the real debt increases (decreases) when either output is below (above) its normal value, or government spending exceeds (falls short of) its long-run value. Given a

proportional income tax and a constant tax rate, tax revenues raise (fall) in the same proportion as output. Thus, the theory suggests unitary values for the coefficients of the cyclical variable and the government expenditures variable.

Barro (1979, 1986) discussed the applicability of the tax smoothing model to the U.S. experience. For the period 1916-1982 the estimates for the cyclical variable and for the temporary spending variable were 3.7 (s.e.=0.35) and 0.6 (s.e.=0.07) respectively, both highly significant but also clearly different from the hypothesized unitary values. The estimates suggest that under recessions tax rates tended to fall rather than being stabilized, and also that temporary increases of government expenses tended to be partially financed by increased taxation. More encouraging results were reported in Barro (1987) where the model is applied to the British experience from the early 1700 through World War I. In this case the estimated coefficient for the temporary spending variable was 0.96 (s.e.=0.04) without including WWI, and 1.03 (s.e.=0.02) including WWI.

The tax smoothing approach has been presented as a positive theory of public debt. The outstanding message is that real- world governments issue or retire public debt in order to smooth the distortions of non-lump sum taxation over time. Further research has enriched the approach by discussing how those distortions are distributed not only over time but over states of nature. The maturity structure of public debt is a central concern in the new developments of the theory, and it extends the controversy to time-consistency issues (Lucas and Stokey, 1983; Person and Svenson, 1984). Further, Fleming (1987) discusses how budget deficits smooth tax rates in a stochastic model in which in contrast with previous literature government expenditure is endogenous. We now turn to the second central topic around which we organized our discussion of tax smoothing, namely, the time-consistency of tax policies. Our main reference is Lucas and Stokey (1983).

2. Time-consistency of optimal tax policies.

Lucas and Stokey (1983) and Lucas (1986) emphasize two points: the contingent-claim character of public debt, and the time consistency of welfare-maximizing policies. The framework is an infinite horizon model in which the absence of non-distorting taxes constitute the way out from the debt neutrality proposition. Public debt is seen as the method by which the distortions caused by non-lump sum taxes are distributed not only over time, as in Barro's tax smoothing model, but over states of nature. This latter aspect refers to the contingent-claim character of public debt, a central point in the theoretical discussion of public debt; it stems from the Arrow-Debrew contingent-claim interpretation of a competitive equilibrium model (Lucas, 1980).

Lucas and Stokey discuss alternative scenarios which illustrate the role of public debt in dynamic efficient contexts, namely, the diffusion of tax distortions over time and under uncertain states of nature. Some examples are provided in Box VI, 1. A further question is whether dynamic efficient policies are time-consistent. Lucas and Stokey show it is true in a barter economy. It is possible to conceive successive governments, each one choosing the same tax rates, even when they find themselves free to choose their own policies, that is, the current tax rates, the announcement of future tax rates, and the restructuring of outstanding debt. Two elements are important. The first one is credibility, which can be assured if the restructuring of debt is consistent with the announced tax policy. The second is that the maturity structure of debt matters.

BOX VI. 1
The role of public debt in dynamic efficient contexts.

The framework of these contributions is an economy without capital in which a constant population of identical consumers lives forever. Goods are produced under constant returns to scale, and consumed by private consumers and the government. Government expenditures are given by an exogenous and stochastic process; this is the only source of uncertainty in the model. There is no room for any kind of countercyclical fiscal or monetary policies. Consumers are assumed to be in a rational expectations equilibrium and the distribution of the stochastic process of government demands is assumed to be known by them.

Because money in this model is not a good but a means to taxed goods (in contrast with the Phelpsian view reviewed in Section III above), the optimal monetary policy is that which sets the rate of inflation at zero. Fiscal policy is left with the determination of the optimal path of income taxes, and therefore, of debt.

The workings of the model are illustrative of the role of public debt. Consider a situation in which the initial debt is set at zero ($b_0=0$), the government consumption is zero in all periods ($g_t=0$) except some period T, for instance a war period ($g_T>0$, $T\neq t$), and the monetary policy is conducted through open-market operations. According to the tax smoothing principle the tax burden created in T must be spread backwards and forwards from T. How can this work? Before T the government forms a budget surplus by collecting taxes but these funds go back to the private sector as "loans", in exchange for private debts (the private sector is a debtor). At T these debts are cashed and public bonds are issued (the public sector is now the debtor). After T there is a positive public debt, but it is not efficient to pay it off. It is shown that for t=T+1, T+2, ..., the tax revenue just covers debt interests but no bond is ever redeemed. A different case occurs when government shocks are anticipated at regular periods (T, T+S, T+2S, ..., $S\neq0$). When this happens the government pays interests and redeems gradually the outstanding bonds after every shock. These examples corroborate and extend Barro's tax smoothing principle operating symmetrically over time.

A new scenario arises when a positive government shock at T is anticipated with probability α. Then, at T-1 or so, the private bonds acquired with budget surpluses become contingent on the occurrence of the shock at T. If this happens, the private sector is compelled to cash its bonds and to acquire public bonds, but if it does not happen private bonds become valueless; this case depicts the state-contingent aspect of public debt.

Dynamic inconsistency appears in the monetary economy, however.[22] Time inconsistency arises not only through the monetary channel by means of an inflation which erodes the real debt, but through tax changes which eventually affect the price level. Therefore, dynamic consistency could only be restored if the government committed itself to a given path of prices (not of the monetary aggregates).

Lucas (1986) envisages an institutional way by which the efficient Ramsey taxes can be time-consistent in modern societies. It is seen as a set of constitutional rules to which governments would be subject. The first rule would preclude capital levies in the form of taxes on past capital accumulation, and the second would require government's committment to follow a

particular path of nominal prices (In relation to the first rule, Lucas [1990] shows that for a growing economy if the Ramsey path converges to a balanced path the tax rate on capital must converge to zero).

Overall, public debt is economically relevant in a world with distortionary taxation. The tax smoothing theory recognizes the role of public debt in spreading tax distortions over time and over changing states of nature. So far we have discussed tax smoothing under the assumption that government deficits are exclusively financed by bond issues. In our last subsection we review the new classical discussion on the interdependence of fiscal and monetary policies, to the extent that it contributes to our perspective of public debt theories, and turn back to recent developments of the tax smoothing theory where explicit consideration is made of deficits financed by both bonds and money.

C. Deficits, debt and inflation.

Fiscal policy considerations play an important role in new classical discussions of inflation. Two main fields can be distinguished for our own purposes. In the first one, public debt is seen as a result of a dynamic game in which the players are the fiscal authority, the monetary authority, and the private sector. The second one develops the implications of the equilibrium approach of public finance. These are the topics of our following discussion.

1. Policy coordination and budget stabilization.

The central point in this discussion is that fiscal and monetary policies are interdependent and have to be coordinated. The emphasis is not on individual policy actions but on policy strategies. In this context the public debt (size and composition) is closely related to the way in which these strategies are conducted (Sargent and Wallace, 1981, 1986). The exposition of these ideas in the early 1980s led to confrontations with established ideas, particularly in the monetarist field.

In the monetarist tradition a bond-financed deficit is not inflationary. Taxation as well as borrowing mean that the government spends the funds instead of the private sector. Inflation appears when the deficit is financed by money creation.[23] These points are investigated by Sargent and Wallace who state that the monetarist position ignore the full implications of treating the economy as a dynamic game.[24] First, it is argued that when government deficits are financed only with bond issues, authorities are constrained by the existence of a maximum value of the government bonds desired by the public B~, and by the size of the expected future budget surpluses. Therefore, budget deficits must be temporary. Second, it is observed that when government deficits are financed by both bonds and money issues, the proportion of the budget deficit financed with bonds may eventually be repaid by additional money issues. This situation is more likely the larger the budget deficits are and the closer is the accumulated debt to the limit imposed by B~. Once B~ is reached the resort to inflationary finance is unavoidable unless a fiscal reform (reduction of expenditures and/or increase of taxes) is introduced.[25]

Sargent and Wallace go further to show how when the real interest rate exceeds the growth rate of the economy (r>n), the debt-output ratio grows steadily under a tight monetary policy and the economy eventually ends up with inflation. McCallum (1984) intervenes to show that permanent deficits can be financed only with bonds and without inflation, if the definition of deficit includes interest payments (The Sargent-Wallace definition of deficit does not include the repayment of debt interests).[26] A similar conclusion is reached by Liviatan (1984) who indicates that under a constant fiscal policy (which includes interest payments) increases in debt interests are compensated by adjustments in taxation and expenditures. This compensatory response of fiscal authorities would eliminate any threat of explosive increases in public debt.[27]

Hoover (1989) comments a controversy between Darby (1984) and Sargent and Miller (1984) about the relative values of r and n. Darby considers more likely the case n>r (as

opposed to r>n of Sargent-Wallace) in which the roll-over of public debt is viable and the monetarist prescription of tight monetary policies to control inflation is vindicated. Sargent and Miller respond that in the presence of growing budget deficits interest rates will be greater than the growth rate of the economy because of the financial incentives that must be offered to allocate the debt; however, they recognize that when their assumption of an exogenously fixed interest rate is abandoned the discussion about the relative values of r and n is insufficient to draw definitive conclusions about tight monetary policies because of the existence of a bond revenue Laffer curve. This issue has been extended by Weil (1987).

Weil discusses the "simple arithmetics" according to which government deficits should eventually be monetized in accordance with the difference (r-n). In his model the real interest rate is no longer fixed in the long run, but a function of fiscal deficits instead. It is shown how monetary authorities have to monetize a fraction of permanent deficits which is smaller than the fraction predicted in the Sargent and Wallace model.[28]

In conclusion, the evolution of public debt is not independent of possible conflicts between monetary policy and fiscal policy. In extreme cases stabilization requires a drastic fiscal reform to reduce the burden of debt or abate high inflation rates. In the background of the literature reviewed here there is a feeling that a limit should exist for the debt-output ratio; conspicuous precedents of this feeling were present in the public debt debate of the 1940s as we saw in Section I above. We now turn our attention to a different discussion of the coordination issue generally associated with Phelps (1973). By following this discussion we go back to the tax smoothing theory where both monetary and fiscal policies are involved in the financing of budget deficits.

2. Is inflation an element of an optimal taxation plan?

The coordination issue was explored in a different framework by Phelps (1973). The government branches -the treasury, the central bank, and the expenditure branch- concert

their actions in terms of government objectives. Both the treasury -through income taxation- and the central bank -through inflation and the management of government bonds- affect the disposable income. Phelps applies the differential taxation approach in public finance which keeps constant the sum of tax revenues when one tax is substituted for another. By applying this methodology to the overall operations of the treasury and the central bank, the total income effects of these government branches on the private sector are kept constant to derive the substitution effects when there is a change in the tax mix. This means that a change in income tax rates -in the treasury- is compensated by a change in the inflation tax -in the central bank-. Phelps develops a model of the optimal tax mix including the inflation tax, following Ramsey (1927), as we saw in Section III. The result is that in this public finance framework it is optimal to tax liquidity as well as "other" goods and income.

In the context of the New Classical School this Phelpsian view has originated two lines of debate, at least. One discusses the theoretical soundness of the conclusion that an inflation tax should be used in a world with distortionary taxes and reintroduces the controversy about the role of money. The other one investigates to what extent the optimal taxation theory describes the behaviour of government.

As seen in Section III, in Lucas and Stokey (1983), and Lucas (1986), liquidity is not a good but rather the means to acquire goods. In this context the Phelpsian notion according to which it is optimal to tax liquidity is "simply incorrect" since, it is argued, liquidity permits the access to a set of goods that ordinary taxation has already affected.[29] Kimbrough (1986) develops this anti-Phelpsian position in a general equilibrium framework in which the government maximizes private sector welfare by following the Friedman's optimum quantity of money rule even if distortionary taxes are needed to finance the budget.[30]

Phelps (1989) replies that the public finance case for inflation continues to be valid: people consider liquidity as a good per se, and additionally, the inflation tax is the only way to tax the underground economy. Further, conditions for including money in the production

function are no less severe than for money in the utility function (Phelps, 1989, Spaventa, 1989). Moreover, Mankiv (1987), and Poterba and Rotemberg (1990) quote an essay by Romer (1987) in which the inflation tax is showed to be appropriate in a model of the transactions process.

Mankiv (1987) scrutinizes to what extent the prescriptive message of the optimal seigniorage theory has been followed by governments in the United States in the postwar period -1952 to 1985-. This work stems from the differential taxation approach used by Phelps (1973), and the original Barro (1979) contribution to the tax smoothing theory in which the monetary policy is not used to finance the budget deficit. The aim is to show that if monetary and fiscal policies are used to finance optimally government expenditures, the inflation rate and the tax rates will behave like random walks, and evolve together over time. This implies that the level of taxation will vary together with inflation and nominal interest rates.[31] Regressions report a positive, important and statistically significant impact of government revenues (as a proportion of GDP) on nominal interest rates and inflation.

Poterba and Rotemberg (1990) examine the correlation between inflation and tax rates for a sample of OECD countries. It is shown at the theoretical level that models of governments with and without committment imply a positive relationship between inflation and taxation rates. Unlike other contributors like Phelps (1973) and Lucas (1986), Poterba and Rotemberg consider not only the distortionary effects of inflation on the demand for money, but its distributional impacts. This vision of the inflationary effects is considered in the specification of the expected social cost of raising government revenues.[32] At the empirical level the case for a positive correlation between inflation and taxation rates is confirmed by the United States along the period 1891-1986 and by Japan along the period 1955-1984. The experience of other countries like the United Kingdom 1872-1984, Germany 1954-1984, and France 1948-1985, does not support the theoretical predictions. It is concluded that the absence of empirical support could reveal the fact that the government objectives function which inspires the choice of inflation and taxation rates changes over time.

Roubini and Sachs (1989) explore the economic and political forces behind the budget deficits and postulate that differing institutional arrangements in the OECD economies explain the different patterns of budget deficits. The authors extend Mankiv (1987) test to a sample of 15 OECD countries along the period 1960-1986 and arrive to the conclusion that the optimal taxation theory is not supported by the evidence.[33] It is emphasized that governments are not the "monolithic entities of economic models" and that the dispersion of power across branches or political forces increases the likelihood of inefficient budgetary policies. These conclusions come to support our discussions in Section II where we reviewed recent attempts to create a positive theory of public debt based on the observation that fiscal deficits are related to institutional and political contexts.

Regarding Mankiv (1987) and Poterba and Rotemberg (1990), Grilli (1989) comments that the positive correlation between inflation and tax rates does not consider the full implications of the theory. It is necessary to investigate about unit roots and cointegration properties.[34] For a sample of 10 European countries Grilli conducts different unit root tests applied to government expenditure, income taxes and seigniorage. The findings reveal a general support for non-stationarity in expenditure and taxes but only a mixed support in the case of seigniorage.[35] The empirical evidence is also mixed when cointegration tests are applied. It is found that those countries for which the cointegration properties do not apply, show substantial changes in velocity. This result suggests that developments in financial markets in the last decade could have reduced the importance of the inflation tax.

In the same line of Grilli (1989), Trehan and Walsh (1990) comment previous empirical literature related to seigniorage in the United States. It is alleged that under the revenue smoothing framework taxes and inflation must be non-stationary; however, non-stationarity does not prove by itself that the theory is correct. This requires that tax rates and inflation are cointegrated assuming that velocity and the distortionary costs of raising revenues are stationary. It is found some support for the non-stationary implications, but different

statistical tests do not offer unambiguous results. Further, the statistical tests reject the hypothesis that tax rates and inflation are cointegrated under the assumption that velocity and distortionary costs of raising tax revenues are stationary.[36] Additionally, none of the statistical tests reject the null hypothesis that velocity is non-stationary. Thus, it is concluded that shifts in velocity may explain the lack of cointegration between tax rates and inflation, as suggested by Grilli for the European countries. Unlike previous authors like Mankiv (1987), and Poterba and Rotemberg (1990), Trehan and Walsh conclude that the tax smoothing criteria have not guided the behaviour of governments in the United States at least since 1914.

D. Final comments and links with other sections of this work.

Interestingly, although for different reasons, contrasting ways of thinking -Keynesians and new classicals- appear to share the idea that government budgets should be intertemporally balanced rather than continuously balanced against the so-called classical principles of public debt -Buchanan and the public choice school-. Keynesians have traditionally defended discretionary budgetary actions as a stabilizing device over the business cycle. New classicals explain the role of government deficits (surpluses) as an optimal response of the economic system to low-income (high-income) periods, rather than a discretionary method of dealing with the business cycle.

There has been also a tacit agreement between new classicals and public choice theorists since both call for the existence of constitutional rules for fiscal policies, although again for different reasons. New classicals foresee an institutional organization in which capital levies are ruled out and governments are commited to sustain a determined path of the price level, namely, a written or unwritten constitution under which to eliminate the problem of time-inconsistent policies. This is one of the possible avenues by which the new classical contributions could influence actual policies and its supporters claim that the theory deserves

the opportunity of being accepted in the solution of practical matters. This demand has been summarized by Lucas (1990) in one sentence:
"The attraction of neoclassical economics is not that it is pretty -though it can be- but that, given half a chance, it works" (p.315).

What is the link between the theoretical topics in this section and our empirical work in Part III, as well as our historical discussion in Part IV?

We do not apply any test concerned with the validity of the debt neutrality proposition, but heavily draw on the tax smoothing theory as a guidance for our econometric estimations. Our first model has some resemblance with the Barro (1986) analysis of the behaviour of U.S. federal deficits. Our second model explicitly tests whether the tax smoothing theory of deficits explains the Colombian experience: we use a buffer-stock model in which the internal debt is used as a "buffer" by the government in order to smooth out shocks on a group of independent variables such as output, government expenditures, imports and external financing.

The idea that internal public debt has worked as a shock absorber is also a common thread of our historical endeavour in Part IV. In our historical narrative we aim to illustrate how the relationships hypothesized and tested in the econometric sections are brought to life and enriched by events and institutions. In conclusion, a good deal of theoretical review in this section will offer frameworks for the econometric work, and also guidance in the presentation of the Colombian experience.

E. What comes next?

Having finished this section, we have arrived to the end of our enquiry about the contributions to the theory of public debt between the world crisis of the 1930s and the late 1980s. By studying how and why public debt controversies evolved during these six

decades, we attempted to place them into perspective. Now, we are about to start a different scrutiny concerning public debt, this time regarding the actual experience of a developing economy, Colombia.

In Part II we describe broad characteristics of the Colombian economy (stylized facts), which we think help to understand the country's experience with external and internal public debt. We see these descriptions as an introduction to our econometric work in Part III, and our historical enquiry in Part IV.

The reader may be wondering whether the theoretical controversies chronicled in Part I play any significant role in the remaining of this work. Already, at the end of every individual section in Part I we mentioned ways in which the topics under discussion could be helpful to study the Colombian experience. For the purpose of empirical analysis we will come back to the theoretical contributions which recognize a shock absorber function to the public debt.

SECTION VI

NOTES

1. Weil demonstrates how dynamic efficiency in the no bequest exchange economy is a necessary condition for bequests to be operative, and how this condition is necessary but not sufficient in a production economy.

2. Kimball represents the altruistic utility of an individual of generation t, v_t, by an infinite series of the form $v_t = \sum \Omega_j u_{t+j}$, where $\Omega_j > 0$ means that people do not wish ill for their ancestors or descendants. Additionally Ω_j is required to tend to zero as the absolute value of j goes to infinity, id. est., the concern about distant relatives goes to zero in both directions.

3. It is shown how distortionary taxes end up equivalent to lump sum taxes: given that consumers are connected through operative transfers, the marginal revenues originated in the taxation of one person are, independently of the population size, finally returned to the same person. The case is equal to the single-consumer world in which given budget balance taxes do not distort behaviour because the individual knows that revenues will return to him. Further, Bernheim and Bagwell show how the dynastic assumption leads to the conclusion that prices are irrelevant in the resource allocation process.

4. This is the "rotten kid" theorem which sustains that children maximize their own welfare by choosing actions that maximize the family income. In a strategic environment parents desire more attention from their children and then try to manipulate their actions.

5. In aggregate, the MPC out of a temporary tax cut is the weighted average of the MPC equal to unity of constrained consumers and the very low MPC of active participants in capital markets. The fact that the simulated weighted average MPC with perfect capital markets is 5% is not an insignificant result in the recent U.S. experience.

6. Poterba and Summers describe the 1981 tax cut in the U.S. as a natural experiment for the debt neutrality hypothesis. Because of the notable reduction in personal taxes and because it was previously announced and gradually applied, consumption should not have increased, unless myopia or liquidity constraints had been present; the econometric findings support the idea that consumption increased abnormally after the tax reductions of 1981.

7. Banks are price takers and cannot differentiate between low-risk and high-risk consumers. Since high-risk consumers loan demand is greater than low-risk consumers demand the equilibrium interest rate, r_e, is higher than if every consumer had the same loan demand. What is the effect of a debt financed tax cut in this context? The government knows how much public credit is assigned to each citizen and then it is allocated at an interest rate r_o, which is lower than the equilibrium rate ($r_o < r_e$). Thus, a tax cut improves the welfare of low- and high-risk consumers; the debt neutrality proposition does not hold.

8. Yotsuzuka discusses the case of incentives to share information between lenders, as different to the cases of either no communication or full communication between them. The model with incentives for communication is illustrated by a sequential equilibrium in which the banks supplying the pooling contract share customer information. Following a tax cut, these banks reduce the size of their loans, one-for-one, leaving consumption unchanged.

9. Chan shows that the response of current consumption to increased uncertainty about future taxes is ambiguous. A more precise result requires the specification of the utility function; by using a constant absolute risk aversion utility function, it is demonstrated that current consumption falls when uncertainty increases.

10. Barsky, Mankiv and Zeldes conclude that "the consumer is Ricardian in taking into account the future tax liabilities implied by debt finance, and is Keynesian in increasing his spending in response to the tax cut" (p.685).

11. Feldstein (1982) specifies estimating equations in levels; OLS estimations offer mixed results with some parameter estimates supporting debt neutrality and the rest rejecting it. More conclusive support of debt non-neutrality is reported by IV estimations. Kormendi (1983) specifies estimating equations in first differences and the results decisively support Barro's propositions. Seater and Mariano (1985) draw on Barro's distinction between permanent and transitory government spending and their effects on consumption, and report results which are consistent with the debt neutrality proposition. Bernheim (1987) proposes an estimation equation for international comparisons (23 countries over the period 1972-83) and concludes that cross-country data analysis strengthens the proposition that government deficits stimulate private consumption. Modigliani (1987) reports tests based on a cross section of a different sample of countries and concludes that the empirical evidence supports his original ideas (Modigliani, 1961) about the long-run effects of public debt (Section IV above).

12. Aschauer (1989) proposes an empirical test of debt neutrality (for the United States, period 1948-81) in which the estimated relations are obtained from explicit intertemporal optimization methods. The consumption function is derived from a quadratic utility function and assuming that households maximize the present value of utility from consumption in current and future periods. The results are supportive of the debt neutrality proposition. Leiderman and Razin (1988) use an intertemporal stochastic model to test the validity of debt neutrality in recent Israel experience (1980-85). Instead of the infinite-horizon representative consumer considered by Aschauer, Leiderman and Razin specify a model which allows for deviations from debt neutrality in two ways: finite horizons, as in Blanchard (1985), and liquidity constraints. Various tests reiterate that the debt neutrality proposition is not rejected by the data.

The intertemporal approach is applied by Poterba and Summers (1987) to the analysis of the main tax-cut episodes in the United States in recent history. According to debt neutrality, their implementation should not have affected consumption, but the results obtained by the authors reject that proposition. The results of an application of the intertemporal approach to a sample of 16 developing countries are reported in Haque (1988). The hypothesis under discussion is the existence of different planning horizons for the private and public sectors as argued by Blanchard (1985). The empirical evidence gives little support to this hypothesis; additionally, the findings appear to be in favor of the martingale specification of consumption suggested by Hall (1978). As a whole, this research endorses the idea that for a sample of developing countries the debt neutrality proposition holds, as far as the Blanchard's argument is not backed up by the data. This is a limited conclusion, however; as in Leiderman and Razin (1988), a more ample research should consider other possible sources of debt nonneutrality. Additionally, literature on developing countries consider liquidity constraints to be a crucial cause of deviation from debt neutrality (Buiter, 1989; Rossi, 1988).

13. "Because the deficit is countercyclical and consumption smoother than GNP, consumption is high relative to GNP when the deficit is large. This means that the deficit will have a positive sign in the keynesian-type consumption regression even when Ricardian equivalence holds" (Comment by Barro in Discussion to Bernheim 1987, p. 313).

14. Barro quotes the Israel experience during the period 1983-1987 in which private savings offset one-to-one substantial changes (positive and negative) in public savings. This analysis relies upon information taken directly from national accounts. Carroll and Summers (1987) and Poterba and Summers (1987) offer additional illustrations. The first article studies the controlled experiment historically provided by Canada and the United States about the determinants of private savings from the mid-fifties to the mid-eighties. It is shown that after almost 25 years of moving in tandem the private savings rates of both two economies

diverged substantially since the early seventies. In fact, for the United States, while the fraction of private savings to GNP was around 8.3% in the second half of the sixties, it was around 6.2% in the first half of the eighties. Conversely, the Canadian experience was sharply different: from 7.5% in the late sixties to 11.9% in the first half of the eighties. It is also shown how in the Canadian experience the increasing ratio of private savings to GNP was accompanied by a falling ratio of government savings to GNP: while the former increased in 5% between 1971 and 1981, the latter declined in 7% during the same period. This natural experiment in favor of the debt neutrality proposition does not apply in the US economy where the declining government savings ratio over the period is apparently accompanied by a declining private savings ratio (Poterba and Summers, 1987).

15. Atkinson and Stiglitz (1989) obtain the formulation,

$$\Sigma_i t_i s_{ki} = -\theta x_k \quad \text{for } k = 1, \ldots, n$$

where t_i are the tax rates, s_{ki} are derivatives of compensated demand curves, x_k are purchases of good k, and θ is a coefficient which measures benefits expressed in terms of government revenue. The left-hand side is the change in the demand for good k when consumers are compensated to stay on the same indifference curve. Attention is focused on the substitution effect which is the origin of the distortions.

16. This conclusion is derived under the assumption that all cross derivatives of the demand functions of the taxed goods are zero (Sandmo, 1976).

17. The example given in the text applies to the case of tax changes on labor income. Tax changes on consumption bring about different results: a temporary reduction in the current tax induces a substitution toward current consumption. A full description of effects associated with changes in different taxes is offered by Frenkel and Razin (1987).

18. Uniform labor-income taxation across time is not a general result unless some restrictions are placed on preferences and technology. As shown by Kimbrough (1986) and also by Razin and Svenson (1983), if preferences are separable in consumption and leisure, and technology is linear, labor-income tax rates will be constant over time. Barro (1979) eluded the discussion of the government's optimal income tax program, and preferred to apply the method explained in the text and also in the next note. It was a "shortcut" to use an expression due to Blanchard and Fischer (1989, p.587).

19. In Barro (1979) the tax smoothing result is derived from the minimization of the costs involved in raising tax revenues (deadweight losses or excess burdens). Formally, the tax collection costs Z_t are expressed as a positive function of the real revenues R and a negative function of the real income, Y_t. Considering a first degree homogeneity between Z_t and Y_t, the present value of collection costs is given by,

$$Z_t = \sum_{t=1}^{\infty} R_t f(R_t/Y_t)/(1+r)^t$$

Similarly, the present value of the government budget constraint is given by,

$$\sum_{1}^{\infty}[G_t/(1+r)^t] + b_o = \sum_{1}^{\infty}[R_t/(1+r)^t]$$

where G_t is the exogenous government spending, r is the real rate of return on private and public debt, b_o is the initial real stock of public debt, and R_t is the real tax revenue in each period. The government optimization problem consists in choosing R_1, R_2, ..., so as to minimize the present value of collection costs given the intertemporal budget constraint. The resulting first order conditions require $\delta Z_t/\delta R$ (the marginal collection costs of an increase in taxes) to be constant over time. This means that given the homogeneous specification of costs, the ratio R/Y will be constant in all periods.

20. In the derivation of the average tax rate τ, it is assumed that both g and y grow at the rate n, so that the ratio g/y does not change over time.

21. Equations (2) and (3) have been written under the assumption of constant real interest rates. This specification does not consider shocks on interest rates.

22. In a Ramsey context capital levies and default on government debt increase the efficiency of the economy because they reduce the excess burden of taxation. Once the time consistency issue is taken in account, efficient taxation presumes that governments honor debt (Lucas, 1990).

23. A recent reference is Friedman, M. (1989, p.32)

24. A simple description of the economy as a dynamic game considers three players -the fiscal authority, the monetary authority, and the private sector-. Each player has a strategy to achieve its own objectives. A crucial point is that players' strategies are interdependent. The fiscal authority decides about expenditures, taxes, and then, about deficits and the size of public debt. The monetary authority is concerned with the composition of public debt (money and bonds). The private sector decides about consumption and investment, and about the accumulation of public debt in either form.

25. The weakness of the monetarist prescription of a tight monetary policy appears to have a double angle: not only the future rates of inflation will be higher because of the incapability of the government to allocate new issues of bonds, but the present inflation will be higher via the expectation of wider issues of money in the future.

26. Sargent and Wallace (1981) use an overlapping generations model. McCallum (1984) uses a modified version of the Sidrauski (1967a) model in which infinitely lived agents take account of the government budget constraint.

27. In his controversy with Feldstein, Barro (1976) states that public debt cannot grow indefinitely faster than the economy because being taxes the collateral for interest payments, the present value of future taxing capacity imposes a limit on the value of outstanding debt. McCallum (1984) indicates that this discussion is irrelevant in the context of the debt neutrality proposition simply because bonds are not regarded as net wealth.

28. As seen in a previous subsection, the Weil (1987) model combine characteristics of the Sidrauski (1967a) model and the overlapping generations framework used by Sargent and Wallace. Weil analizes the case of a dominant fiscal authority in two different frameworks. In the first one characterized by the absence of intergenerational effects, the results are similar to those obtained in the Sidrauski model, namely, the steady state interest rate is equal to the rate of social discount, and invariant to fiscal and monetary policies. In the second one, intergenerational effects are allowed through the continuous entrance of new infinitely lived families. It is shown that the real interest rate is invariant to the growth rate of the money supply but not to fiscal policies; some illustrations are provided of the way in which fiscal deficits affect interest rates. Finally, because part of the bond issues associated with the financing of permanent deficits are sold to future new families, the monetization does not need to be as large as predicted in the Sargent-Wallace model.

29. The authors embrace the Friedmanian views on monetary policy in a double sense: on efficiency grounds to eliminate positive inflation premia, and on stability grounds under the consideration that an important source of business cycles is an unstable monetary policy.

30. The central point in Kimbrough's argument, as in Lucas, is that money is an intermediate good, in contrast with Phelps who includes money in the utility function. Additionally, Kimbrough recalls that in the public finance literature given a production technology, optimal taxation does not lead to the taxation of intermediate goods. It is shown that budget revenues are raised with lower tax rates when the inflation tax is disposed of. The reason is the elimination of transaction costs associated with inflationary finance.

31. The real interest rate is assumed constant. Mankiv uses a classical model in which real variables are invariant to monetary policy, and government expenditures are an exogenous and stochastic variable. The first-order conditions for an optimal fiscal policy and also for an optimal monetary policy give important conclusions: tax rates, inflation rates, and nominal interest rates are martingales.

32. Poterba and Rotemberg depart from the conclusion achieved by Kimbrough (1986) that the optimal tax rate on money is given by the Friedman rule. Their argument is that they consider many effects on inflation and then money services are not viewed as perfect substitutes for other variables in the utility function.

33. The first test is applied to the question of whether tax rates follow a pure random walk against the alternative hypothesis which includes a constant non-zero drift. The null hypothesis is rejected at the 5% level for 7 of 12 countries considered for the period 1960-1973, and for 12 of 15 countries for the period 1960-1985. The only exceptions are the United States, the United Kingdom, and Finland. The second test extends to 15 countries the tests applied by Mankiv (1987) and Poterba and Rotemberg (1989) to study the correlation between tax rates and inflation rates. Once more this correlation is supported for the United States but rejected as a general case.

34. Grilli criticizes the procedures of previous works which apply standard regression techniques when precisely the variables under analysis may be non-stationary.

35. Three tests are reported: one for a pure autoregressive process, a second one for an autoregressive process with a drift, and a final test for an autoregressive process with a drift and time trend. The non-stationarity of income taxes obtained by Grilli is in conflict with the evidence presented by Roubini and Sachs (1989) who use standard t-statistics.

36. The theory requires non-stationarity of inflation and tax rates; but as long as these variables respond to shifts in permanent government spending the theory additionally requires a common stochastic trend for both variables. The statistical tests reject the existence of this common trend.

PART II

STYLIZED FACTS ON PUBLIC DEBT IN COLOMBIA AND RELATED ISSUES

INTRODUCTION

This part surveys key facts relevant for the understanding of the Colombian experience with external and internal debt. The stylized facts are classified in three groups as follows: first, facts associated with the dependence of the economy on the external sector; second, facts which reveal empirical regularities in the evolution of the fiscal sector; and third, facts which illustrate the close association between the development of the financial sector and the cycles of external and internal debt.

In the first group we consider the following stylized facts:

Fact 1. The reliance of the economy on a major staple (coffee exports) whose price has depended on notable fluctuations in world markets. The terms of trade have heavily depended on the fate of coffee international quotations.

Fact 2. The outstanding importance of import tariffs in the composition of tax revenues. A downturn of imports imply negative effects on government receipts. Given restrictions on the availability of foreign exchange, an adverse shock on the terms of trade will be detrimental to imports and therefore to expected fiscal revenues.

Fact 3. The major experiences of access of the economy to external financing have coincided with the booms of foreign private lending in the late 1920s and late 1970s. In the interim, such access has mainly depended on funds made available by developmental organizations.

In the second group we refer to the following stylized facts:

Fact 4. The procyclical behaviour of the average tax rate. The government revenue percent of GDP appears to fall during recessionary periods and to increase during periods of prosperity.

Fact 5. The public sector was the predominant borrower of external funds during the period of study. The burden of the debt largely depended on the performance of exports: periods of high indebtedness and rapidly increasing exports showed low debt-to-export ratios, and periods of stagnated indebtedness and collapsing exports produced a high debt burden. Adverse shocks on export markets meant deterioration of creditworthiness.

Fact 6. The behaviour of the internal public debt is dominated by marked upswings after adverse shocks arising in the external sector. In historical perspective, the internal public debt appears to have played a function of "shock absorber" when the economy underwent the negative shocks. As for the sources of financing of those temporary increases of the internal debt, the central bank was of leading importance.

Fact 7. Authorities have followed sustainable financial policies over time. This means that there has existed a long-run relationship between government expenditures inclusive of interest payments and tax revenues.

Fact 8. The time paths of the average tax rate and the rate of inflation suggest that the inflation rate was not chosen by governments as a public finance issue.

In the third group we classify the following stylized facts:

Fact 9. The two great lending booms of this century had a marked influence in the development of the financial sector. This effect was particularly crucial in the 1920s. When the booms came to an end, the financial system faced solvency difficulties.

Fact 10. The internal public debt played a significant role in the rescue of the financial system and other sectors affected by the external crises of the 1930s and 1980s.

These facts are intended to offer broad characteristics of the economy we want to study in so far as they highlight its experience with public debt. They are the basis for the selection of the relevant variables for our econometric work in Part III, and the background for our historical inquiry in Part IV.

The reader will find three kinds of information in this part. First, some subsections are designed with the idea of introducing the reader to the evolution of the Colombian economy during the period of study. This is the case of the first subsection where we discuss the experience of an economy largely affected by the fate of its external sector. Apart from offering a general overview of the economy, this subsection also describes the historical phases of output (GDP), a variable of central importance in our econometric discussions in Part III. Second, most subsections are aimed to illustrate the stylized facts listed above. We heavily draw on the historical evolution of the relevant statistical series. In these subsections the reader is provided with historical background about the series which will be used in the econometric sections. Third, although most series are accompanied by information about their statistical characteristics, particularly stationarity, some subsections include additional tests when they are considered necessary to substantiate our stylized facts.

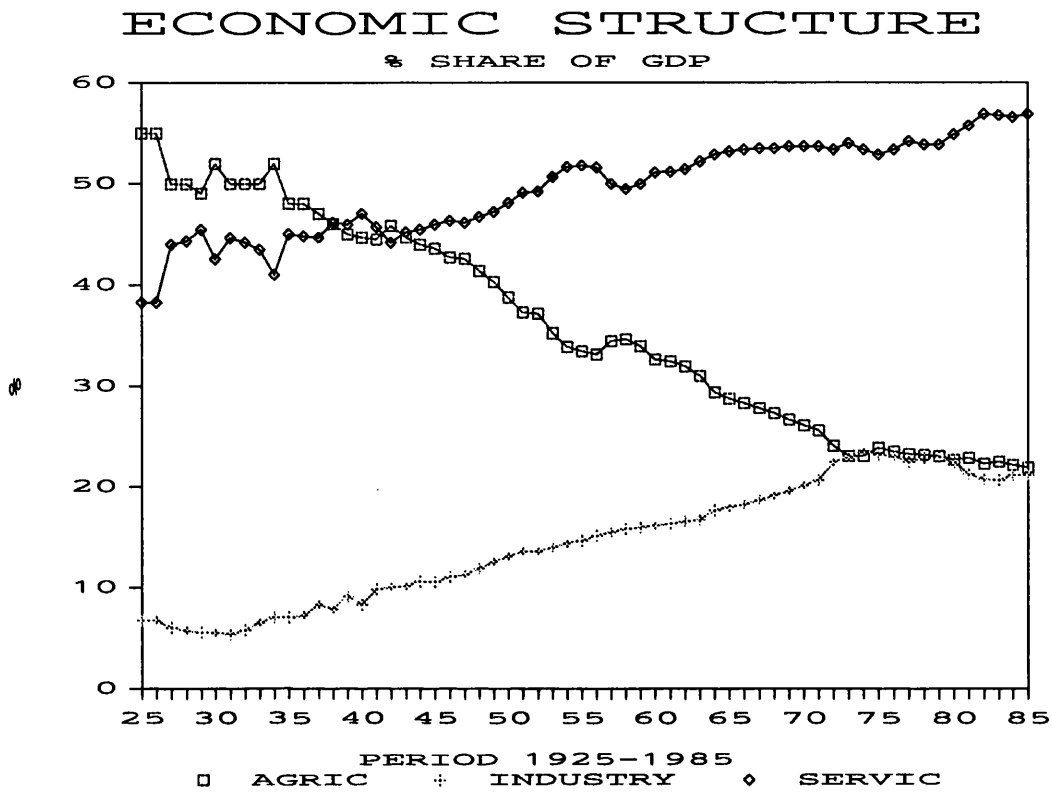
A. A general overview of the economy.

We start by drawing a picture of the economy with a broad brush following the behaviour of GDP growth rates during the period of study. Three phases are highlighted: the interwar years (mid-1920s to early 1940s), the so-called "external strangulation" period (mid-1950s to mid-1960s), and a period of high growth rates (since the late 1960s) which ended in stagnation (early 1980s). We intend this general picture to serve as a general background for our further discussions in this part.

We look first at the main changes in the economic structure along the period of study. The most notable fact is the substantial fall in the contribution of the primary production sector to GDP as seen in Graph 1. Agriculture represented about 50% of output at the time of the great depression (1929-1933) and still constituted about 40% at the end of World War II. In the post-War period the agricultural share in output declined continuously, reaching about 22% in the mid-1980s. These facts reflect a modernization process which involved the development of the manufacturing and services sectors.

The rapid increase in the percentage share of manufacturing in GDP during the 1940s and 1950s slowed down during the 1960s and 1970s before stagnating and even declining during the first half of the 1980s. Traditional services -commerce, construction, personal services and housing- represented a rather constant percentage of GDP, around 28%, since the end of World-War II. Other services particularly associated with the urbanization process -transport, communications, financial services-, increased their participation in GDP from about 10% in 1950 to over 18% in 1985. Finally, government services maintained a steady portion of about 8% of GDP in the post-War period.

GRAPH 1



SOURCES
CEPAL (1957)
Mitchell (1993)

According to international standards the modernization process of the economy is less impressive than it appears to be in Graph 1. While the contribution of agriculture to the growth of GDP in the post-War period has exceeded the average for small exporters of primary goods (19.6% vis-à-vis 18.2% between 1945-49 and 1980-84), industry has notably lagged behind typical industrialization standards in those countries (22.9 vis-à-vis 36.5%, also between 1945-49 and 1980-84)(Ocampo, 1989, Table 6.5; Syrquin and Chenery, 1989).

It has been hypothesized that agriculture has influenced not only growth but also financial policies. Recent literature on the international debt problem has explored the conjecture of a rural base of politics in Colombia as an explanation of why the country was the only commercial borrower in Latin America who escaped rescheduling programs during the 1980s (Urrutia, 1988a, 1988b; Berg and Sachs, 1988).[1] Independently of the validity of this hypothesis, we will see later in this section but particularly in Part IV that rural interests frequently appeared along the period of study when important decisions were to be taken on internal and external public debt, exchange rates, and credit policies.[2]

In our historical narrative in Part IV we will frequently discuss the Colombia's case with relation to other important debtors in Latin America. In this general outlook the question is how has Colombia historically fared in the context of major debtors in the region. Recent estimates show that the Colombia's annual average compound growth rate during the 1929-1987 period was 4.3%, a middle way between the higher rates of 5.4% and 4.8% for Brazil and Mexico respectively, an the lower figures of 2.9% and 2.6% for Chile and Argentina respectively. The economic performance of these countries worsened during the 1980-87 period (the so-called "lost decade"), with Colombia reaching an average growth rate of 2.8%, ahead of Brazil with 2.4%, Mexico with 1%, Chile with 0.6% and Argentina with -0.6% (Maddison, 1992). We now turn to a description of aggregate output evolution during the period of study.

Three great phases may be distinguished in the evolution of output around an historical trend of 4.5% per year during the 1925-1985 period (Graph 2). The first extends from the mid-1920s through the outbreak of World War II; it can be seen how the boom of the late 1920s exhibits the highest growth rates of the period and of the whole series. The second period dominates three decades in which the economy grows at less than its historical trend; the deepest negative outcomes coincide with the War, after which a slow recovery takes place until the mid-1950s when a new interval of lower rates precedes the

expansion of the late 1960s. The third period starts in the late 1960s and extends until the early 1980s: along these years the economy grows above its historical trend reaching more enduring though lower rates than in the 1920s.[3]

Before moving to the description of these phases, it has to be noted that the real GDP series (in logs) is trend stationary, provided that a dummy variable is introduced to account for the strong rupture between growth rates above and below the trend during World War II.[4]

GRAPH 2

NOTES.

Deviations of real GDP from trend in logs.

SOURCES. CEPAL (1957) . IMF

1. The interwar years.

We now offer a sketchy interpretation of the three periods just described. Roughly speaking the first period corresponds to the last stage of an unprecedented exports' bonanza which with some interruptions had lasted since the beginning of the century. The boom was fuelled by extraordinary injections of external credit. The external upsurge peaked in 1928 before a dramatic collapse of the terms of trade and a sudden interruption of foreign loans.

The economy moved from an average growth rate of 8% in 1926-28 to an average of -1.3% in 1930-31. An immediate recovery was possible after the withdrawal of the gold standard and the implementation of expansionary policies. Exchange and import controls, and exchange rate adjustments were introduced to restore external balance. An extraordinary though not unprecedented decision was the official moratoria on external debt payments. To recover internal balance activist policies involved increased government expenditures, cheap bank loans and an enlarged stock of internal public debt. Both sets of policies revived the economy and encouraged the development of the manufacturing sector, particularly of consumption-goods import-competing industries. The intensive utilization of internal public debt was a temporary measure followed by fiscal reforms in 1935. A new tax regime was at the heart of the reforms. Apart from its pretensions of promoting a better income distribution, the new regime sought to reduce the dependence of budget revenues from custom duties.

2. The "external strangulation" period

During most of the 1930s the terms of trade evolved below their historical trend. The world quotations of coffee, the major staple, were inferior to their trend value, and the situation deteriorated during the international coffee crisis of 1937-40. This last episode opens our second period whose first phase (1939-45) dominated by World War II, illustrates alternative macroeconomic conditions: from recession and price deflation (1940-41) to recession and high inflation (1942-44). An important ingredient of the

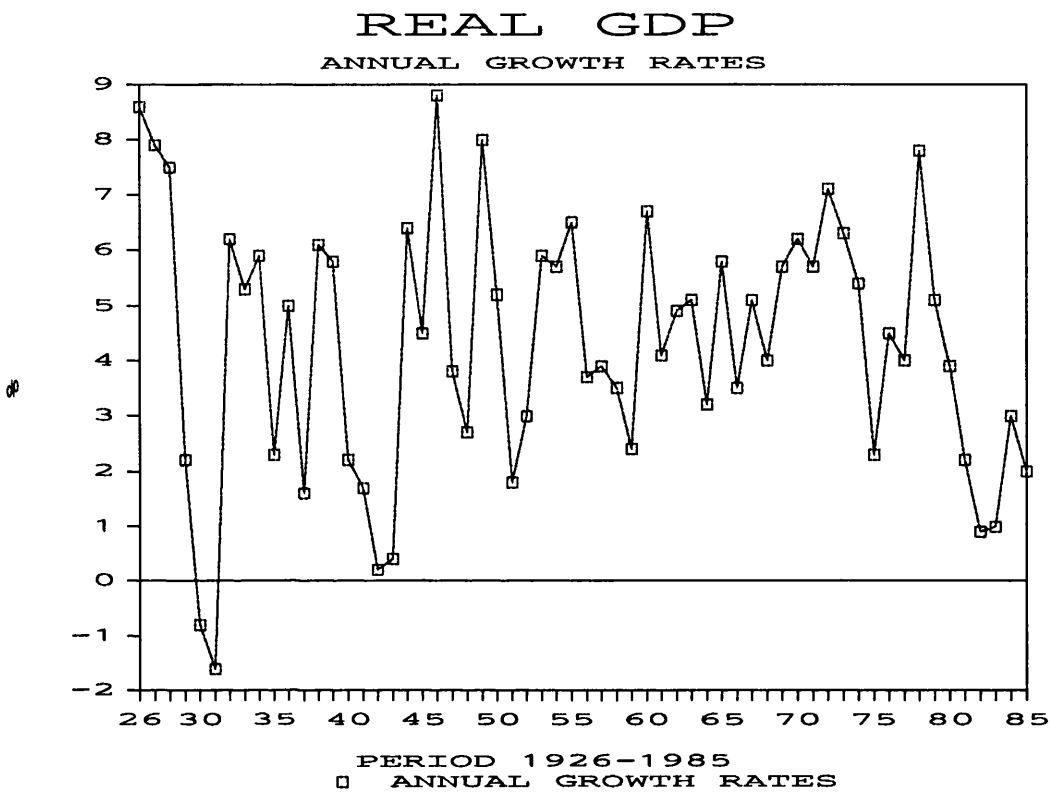
inflationary juncture was the collapse of imports induced by the international conflict: the reduction of imports precipitated a budget deficit and hastened a substantial accumulation of international reserves. All the time authorities sustained a fixed-nominal exchange rate in force since 1935. Fiscal decisions adopted to finance the budget, including 'forced' allocations of public bonds, made part of drastic measures of monetary sterilization.

As revealed in graph 2 the slowdown of economic activity during 1940-43 led to the lowest growth rates of the economy with respect to the historical trend along the period of study. It was during World War II that a clear break arose between previous growth rates above the trend and a long period of growth rates below the trend which would last until the beginning of the 1970s.

A new cycle of accelerated imports and falling reserves followed the end of the War. The burst of imports was particularly hurried by wartime-repressed imports of intermediate and capital goods required by the growing manufacturing sector. The sharp decline in international reserves led to successive devaluations of the nominal exchange rate in 1949 and 1951. The succession of alternative and extreme economic circumstances during the 1940s is reflected in the ample oscillations of the growth rate of GDP as illustrated in Graph 3. However, as the graph suggests, quick oscillations of the growth rate of the economy are not an exclusive feature of the 1940s. On a more moderate scale the experience is reiterated in the late 1950s and during the 1970s and early 1980s.

A new phase of prosperity was fuelled by a price coffee bonanza which dominated during the first half of the 1950s. Booming imports of capital goods buttressed the industrialization process, and enlarged fiscal revenues allowed an unprecedented expansion of government expenditures. When the boom came to a halt the economy found itself dealing with a sharp fall of coffee prices, a trade balance deficit, and piling up import-payment arrears.[5]

GRAPH 3



SOURCES
CEPAL (1957)
IMF

The end of the external bonanza of the mid-1950s marked the beginning of a recessive phase which lasted until 1967. These were years of "external strangulation" dominated by a chronic shortage of foreign exchange. A diversity of trade and exchange rates policies orientated to restablish external balance were frequent in this period. Important developments in import-competing industries were supplemented by a resolute policy of export promotion. As for exchange rate changes a maxidevaluation in 1957 put the exchange rate back on its historical trend of real devaluation; though other nominal adjustments of the exchange rate were carried out in the early 1960s, they did not have a comparable lasting effect. Internally, an expansionary fiscal policy financed with increased internal and external debt took place in the early 1960s. This expansionary

movement was stimulated by the optimistic prospects of the Alliance of Progress -a pact of economic cooperation signed in 1961 between the United States and its Latin American allies-. International creditors and observers presented Colombia as the "showcase of the Alliance of Progress". However, recurrent difficulties to achieve external balance rapidly frustrated the expansionary impetus.

3. From rapid growth in the 1960s to stagnation and crisis in the 1980s.

Our third period starts with a phase of high rates of economic growth -1968-73- (Graph 3), stimulated by a buoyant international economy and a set of policies orientated to increase external competitiveness. A crawling-peg exchange rate arrangement, foreign exchange controls and a regulated access to external credit constituted the framework enacted at that time, which practically unmodified would last until 1991. Nontraditional exports were stimulated, and the purchasing power of exports recovered their historical growth trend for the first time after the downswing of coffee prices in 1956. Yet, these encouraging results fell too short to overcome reiterated trade-balance deficits. It was an important inflow of foreign credit of official origen which financed the external disequilibrium, and provided part of the funds which fed one of the most notable expansions of public expenditure in the post-War period.

The expansionary years came to an end in the mid-1970s on the brink of an international recession. Additionally, the inflation rates reached heights (23.6% in 1973-75 compared with 7% in 1968-70) which although with ephemeral precedents in the past, for the first time exhibited symptoms of persistence at high levels. Policies to combat against inflation and to strengthen the diversification and promotion of exports were designed in the mid-1970s. A fiscal reform destined to eliminate subsidies and invigorate tax revenues, and measures of financial liberalization were introduced to restore internal stability. And an acceleration of the rate of the crawl was chosen to improve external competitiveness.

An emphatic demonstration of the effects of coffee-price cycles on the economy was lived through during the years 1976-81: an unanticipated and relatively prolonged boom of the international quotations (1976-78) followed by a sharp decline (1979-81). The set of policies orientated to increase the competitiveness of the economy broke down. As the coffee bonanza went on, international reserves built up to unprecedented levels, the monetary base expanded at higher rates and the rate of inflation reached its second highest peak in the whole series. Authorities slowed down the devaluation rate of the crawling peg, then allowing the real exchange rate to appreciate with the consequent loss of competitiveness in the non-coffee tradables sector. In the late 1970s the economy found itself with a high stock of international reserves and a low stock of net external debt: in fact, by 1980 exports tripled net external debt. Other results were less satisfactory. Import-competing industries stagnated and a backward movement affected the process of export diversification. Additionally, the movement towards financial liberalization was partially reversed as authorities sought to reduce inflationary pressures by controlling bank lending.

The prospects of the economy worsened in the early 1980s, as seen in the downswing of growth rates with respect to the historical trend (Graph 2), or in the relative low growth rates which resembled those of the early 1940s (Graph 3). Apart from the negative impacts of the international economy -price shocks of 1973-74 and 1979-80 and the industrialized countries' policy responses- which were by their nature global, domestic policies could have increased the vulnerability of the economy. The following three phases can be observed in the first half of the 1980s:

First, the collapse of coffee prices and the outbreak of the worst recorded trade balance deficit. In spite of these facts the devaluation rate of the crawling peg was insufficient to avoid a real appreciation of the exchange rate. The eroding effect of the trade deficit on the stock of international reserves was disguised by a substantial increase of external debt, and the internal counterpart of this enlarged external debt was an increased

government expenditure. Further, governments financed a considerable portion of the broadened spending with proceeds obtained from the financial investment of international reserves. There was also a change of attitude regarding the access of the private sector to foreign credit; while in the late 1970s it was controlled, in the early 1980s private firms were allowed to obtain fresh funds in the buoyant international market. This change of attitude was to complicate matters in the immediate future. Finally, the central government and public enterprises intensively turned to the banks during the climax of foreign bank lending (1978-82). As a result, three quarters of the increased indebtedness of the economy during these years were contracted with commercial banks.

The second phase coincides with the aftermath of the Mexican crisis in 1982. Foreign-bank loans to private firms and domestic commercial banks virtually dried up. The external disequilibrium could no longer be veiled by borrowing and international reserves started falling. At the same time the negative impact of the debt crisis on neighboring economies -important export places- added up to the fragile trade balance situation.

The third phase is distinguished by drastic processes of external and internal adjustment. External adjustment was pursued by a combination of commercial policies and devaluation. A mixture of import quotas and export subsidies added to an existent and tight belt of exchange controls. A strong acceleration of the rate of the crawl rapidly rendered a real exchange rate similar to that reached in 1975 when the economy achieved its highest recorded level of external competitiveness. Internal adjustment was tried for by decreasing government expenditures, namely cutbacks in public investment and real reductions of wages in the public sector; additionally, ambitious tax reforms were implemented to broaden the tax base and increase budget revenues. While the internal adjustment could render the expected results, governments used massively but temporarily the expedient of internal public debt: bond issues were allocated in open

market, but given the weakened financial position of the Treasury, the Central Bank ended up redeeming a significant amount of issues.

A crucial difference between the financial crisis of the 1930s and its replica of the 1980s was the continuity of debt service payments. Despite the drying-up of foreign commercial bank loans the country managed to honour its external commitments along the decade. Important ingredients of this process were a substantial increase of loans from official sources and a notable contribution of foreign direct investment during the early 1980s. Contrasting with a common experience in the continent, debt restructurings were not a fact in the relationship with commercial banks. Yet, new medium- and long term loans approved by these banks in the second half of the 1980s were not an exercise of "voluntary lending"; they required prolonged negotiations frequently involving political pressures on the banks. As in the 1940s, the U.S. government played a "persuasive" role; in the recent experience, pressures from the IMF and multilateral and bilateral institutions influenced the outcome of negotiations.

In conclusion, we have offered the image of an economy which has been substantially affected by the fate of its external sector. Disturbances in the international economy have involved both the current and the capital account, and a good deal of policies applied during our period of study were conceived to face those shocks. This brings us to a description of shocks arising in the goods and in the capital market, as well as to a general perspective of policies adopted to maintain external balance.

B. External sector.

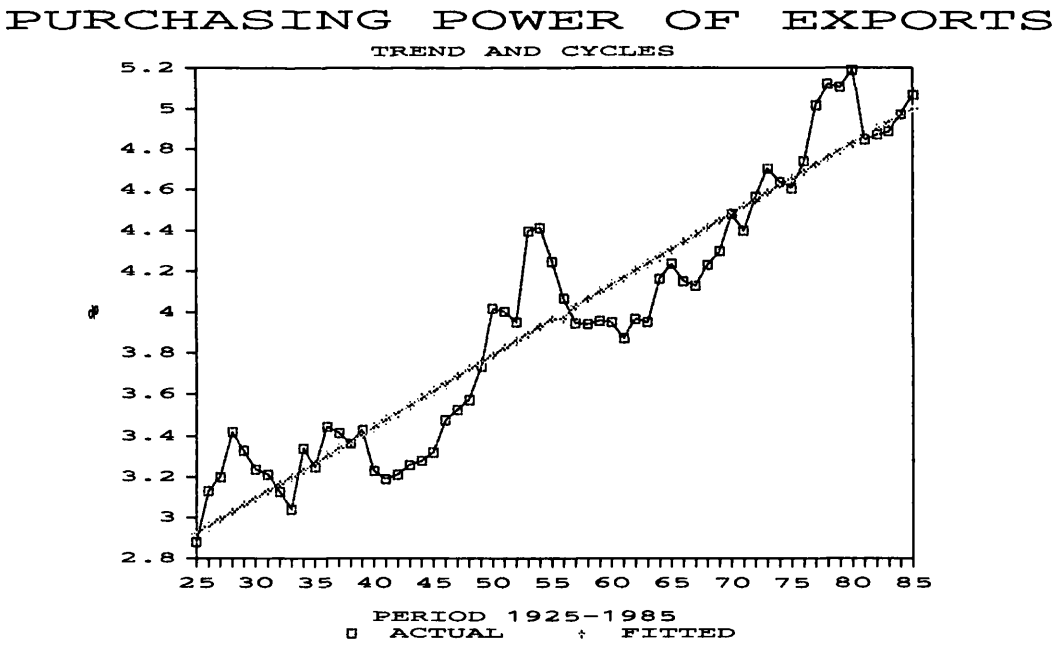
Three issues are discussed in this section. The first describes export shocks summarized by the cycles of the purchasing power of exports (PPE), and import shocks. The second shows how the access of Colombia to foreign lending has been largely determined by ample and sporadic waves of private funds (late 1920s and late 1970s); when private

lenders have retreated external financing has depended on official organizations and scattered initiatives of foreign direct investment. The third outlines the evolution of exchange rate arrangements designed to cope with external instability.

1. Shocks originating in the goods market.

A description of shocks in the goods market is offered by the evolution of the terms of trade (TOT) or (PPE). This last measure which includes TOT and also real export effects is shown in Graph 4. Broadly speaking the three major positive deviations from trend in the late 1920s early 1950s and late 1970s correspond to price-coffee bonanzas; and the major negative deviations from trend coincide with World War II and the external strangulation period which covered part of the 1950s and 1960s.[6]

Graph 4

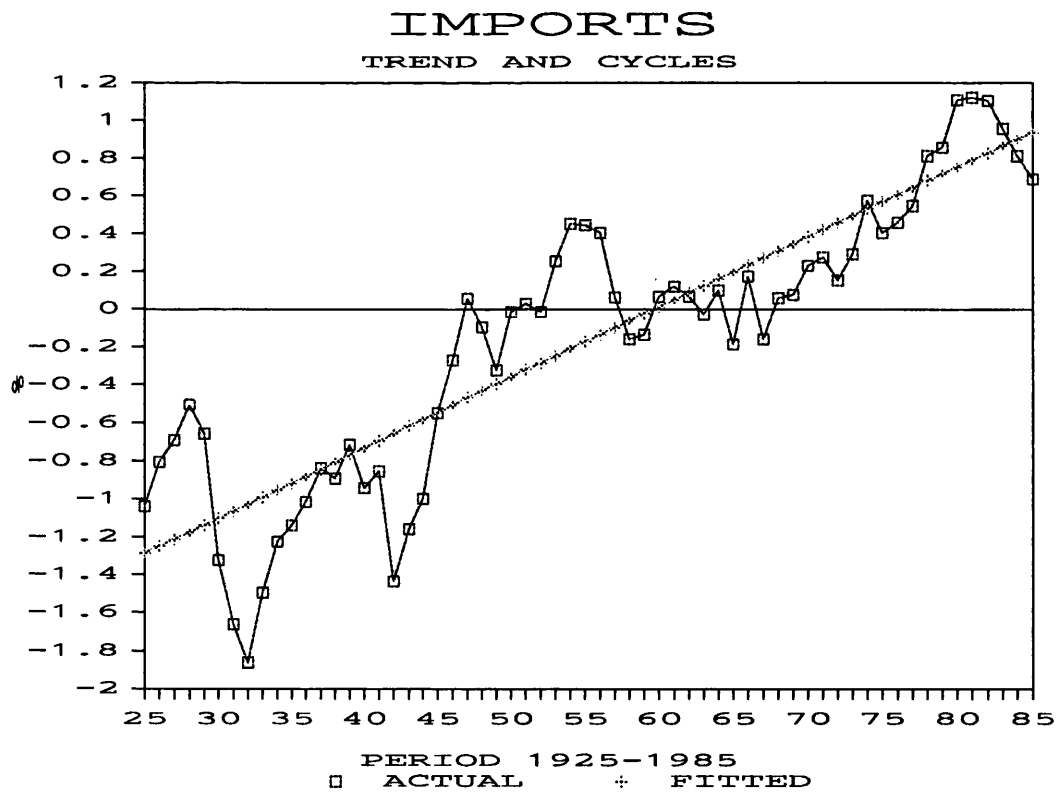


NOTES
Trend and deviations from trend in logs
SOURCES
CEPAL (1957)
IMF

Shocks are not limited to export markets. They can also appear in the import market. In the Colombian case import shocks have affected not only the current account, but have

had significant fiscal effects. Although fiscal dependence on import tariffs has declined over time, from about 65% of fiscal revenues in 1925 to 40% in 1950, and to 25% in the mid-1980s, negative changes in imports have always adversely affected government finances. A limited availability of foreign exchange derived from adverse export shocks (a fall in PPE), or constraints on foreign borrowing (loss of access of the country to external financing including foreign bank trade credits) can be quoted between the causes of import downswings. Also supply shortfalls (export restrictions abroad) should be mentioned. The most clear, although extreme case of export rationing abroad was lived through during World War II, when the collapse of imports contributed to one of the major fiscal crises during the period of study. Finally, it has to be noted that imports are affected by government policies (exchange rate and/or commercial policies) concerning external balance.[7]

GRAPH 5



NOTES
Trend and deviations from trend in logs
SOURCES
CEPAL (1957)
IMF

Graph 5 shows the time path of import cycles which will be particularly useful in our empirical analysis of Part III. As for its dynamic behaviour, it can be shown that the series is trend stationary.[8] In conclusion, we have called the attention to two facts. First, the cycles of the PPE resulting from external shocks transmitted through the goods market. Second, the crucial importance of custom duties in government revenues, and therefore, the fiscal effects of import shocks.

2. Shocks arising from the capital market

The access of Colombia to international financing can be divided in three periods. First, the interwar period in which long-term public and private bonds were placed in financial centres such as New York and London. The suppliers of funds were mainly individual investors. This extraordinary financing was suddenly interrupted after the 1929 crash. Second, the postwar period up to 1970 when long term-funds were provided by official institutions. Third, the revival of international private financing through commercial bank loans (medium- and short-term) since the early 1970s up to the early 1980s, but heavily concentrated on the years 1979-82. During these three periods lending operations were supplemented by foreign direct investment and usual suppliers' credits.

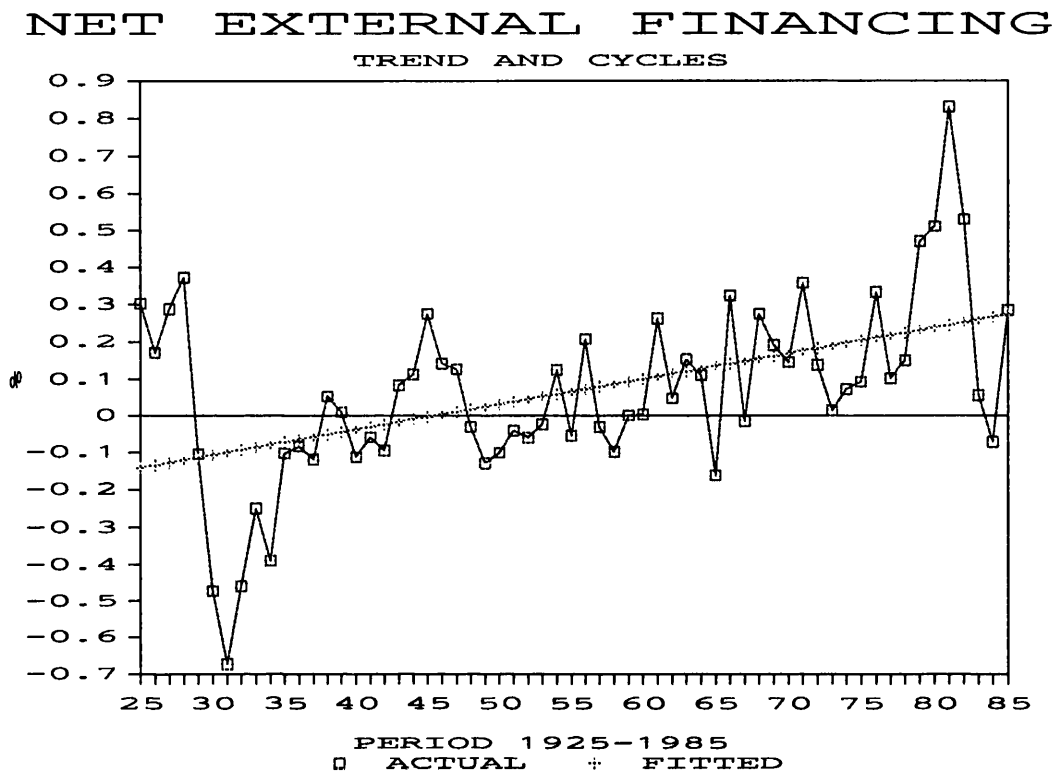
Net external financing can be calculated by using the equation for changes in international reserves:

$$dIR=TB+dF'-r'F'=TB+f'$$

Then, f'=dIR-TB, where dF' is the annual flow of external financing and r' the external interest rate. TB is the trade balance. Note that dF' includes financing to the public and the private sectors, and also foreign direct investment.[9]

Trend and cycles of f' are depicted in Graph 6, where exports have been used as a scale variable. It can be statistically shown that the series follows a trend stationary process.[10] Actual values give the annual ratio of the net flow of external financing to the flow of exports. Two main characteristics are observed. First, the extremes of the series are dominated by notable positive cycles which correspond to the access of the country to the boom of private-long-term funds in the 1920s and to the boom of commercial bank funds in the late 1970s. These events were followed by sharp cutbacks of external financing; however, the negative cycle in the 1980s was much less deep and prolonged than it was in the 1930s. Though in both cases foreign direct investment was a factor of recovery, substantial official (multilateral and bilateral) lending between 1982 and 1985 restored the external financing after the collapse of commercial- bank lending. The second characteristic of the series is the nearly year-to-year oscillations of f' around trend since the early 1950s to the late 1970s coinciding with the period in which official institutions were the dominant source of foreign credit. The series suggests a stop-go behavior of the net funds provided by developmental organizations and foreign investors combined.

GRAPH 6



NOTES
(dIR-TB)/X, where dIR: change in international reserves; TB: trade balance; X: exports.
Trend and deviations from trend.
SOURCES
Banco de la Republica

In conclusion, our stylized fact at this point is that the major experiences of access of Colombia to external financing during the period of study have coincided with the major cycles of foreign private lending this century. Once these cycles have come to an end, the access to external lending has been limited to concessional finance made available by official development institutions.

3. Exchange rate policies and other adjustment measures.

This brief subsection offers general information about exchange rate policies during the period of study. Four phases dominate the evolution of the real exchange rate. Different arrangements appear in the background of its historical performance. The gold exchange standard ruled foreign exchange transactions after 1923 when important institutional reforms took place. This exchange rate arrangement was in force during the boom of the late 1920s and survived the international financial crisis of 1929-30. Colombia was one of the last countries who abandoned the gold standard since convertibility was suspended only after the devaluation of the pound sterling in late 1931.

The breakdown of the gold standard was followed by a new phase in which a managed float arrangement (1931-36) was replaced by a fixed exchange rate system which lasted until 1948. While the managed float period was characterized by a process of strong real depreciation of the national currency, the fixed exchange rate period was dominated by a tendency to overvaluation of the exchange rate particularly since the outbreak of World War II.

Attempts to correct for overvaluation of the exchange rate characterized a new phase between the late 1940s and early 1950s, but it was not until a single maxidevaluation was performed in 1957 that the real exchange rate reached again its historical trend.[11] These adjustments happened in a context in which different exchange rates for different transactions were applied, and the exchange controls introduced after the collapse of the gold standard were preserved.

The last phase starts in 1967 with the adoption of a crawling-peg exchange rate, the reinforcement of controls on international capital flows, and the tendency to a unique exchange rate. A gradual real devaluation of the peg which clearly outstripped the historical trend dominated during most of the 1970s, before the coffee bonanza in the second half of the decade induced policy rectifications. These changes led authorities to slow down the rate of devaluation of the crawling peg, which eventually implied a

substantial overvaluation of the real exchange rate (in 1981 the real exchange rate was 25% overvalued in terms of the level of competitiveness achieved in 1975, the highest one achieved in our study period). Correction of misaligned exchange rates was one of the policy priorities after the 1982 external crisis, and that adjustment was fulfilled by means of a strong acceleration of the rate of the crawl.[12]

An important observation can be added to this description. The exchange rate has been only one within a set of instruments designed to preserve external stability. Other instruments have had considerable importance in policy agendas. An outstanding example is given by exchange controls created for the first time in 1931 after the announcement of suspension of convertibility of the pound sterling. Since then, continuously, though with differing severity, controls were applied to the regulation of the capital account during the period of study. Other instruments have been closely related to the regulation of the current account, such as quantitative import controls. In practice, authorities have not relied on one single instrument but on a mixture of them. A publicized argument for not depending only on the exchange rate has been that the high instability of world coffee prices would be transmitted to the economy straightaway through the exchange rate (Díaz-Alejandro, 1976).

C. Fiscal Sector

Three sources of stylized facts are considered here. First, we describe the evolution of government expenditures, government revenues and budget deficits as a proportion of the size of the economy; we call the attention to the different shape of the series during the post-War period in comparison with 1925-45. Second, we look in turn to the evolution of external and internal public debt; in the former case, we describe the evolution of the debt-export ratio, and in the latter, the cycles of internal public debt. We finish with a description of the path and composition of real public debt. Third, we examine the series of expenditures, revenues and debt, together, to see whether the fiscal accountancy

suggests that governments followed sustainable financial policies during the period of study; we close this discussion by exploring to which extent the series of government revenues as a proportion of GDP (the average tax rate), seems to be correlated with the inflation rate series as predicted by the equilibrium approach to public finance.

1. Central government expenditures.

Two main periods can be distinguished in the evolution of real government expenditures -Graph 7-.[13] From the mid-1920s through 1950 the importance of government spending declined relatively to the size of the economy. The magnitude of the fiscal adjustment that followed the boom in the 1920s is illustrated by a cutback of expenditures from 8.5% to 4.5% of GDP between 1928 and 1935; there was one outstanding interruption in 1933 when authorities deliberately increased expenditures to estimulate recovery and finance a temporary border conflict with Peru. The ratio went up during the first half of World War II to be followed by a drastic adjustment during the second half of the conflict. In averages, government expenditures represented 7% of GDP in the late 1920s, and somewhat less, 5.5% in the "optimistic" five years that followed the end of the War.

A rather different image emerges from 1950 through the end of our series. The average ratio of government spending to GDP grows over time, and the shape of the series suggests that periods of rapid increasing government spending are followed by shorter periods of retrenchment. There is nearly a pattern every decade with expansionary waves of 5-6 years followed by contractionary movements of 2-3 years.

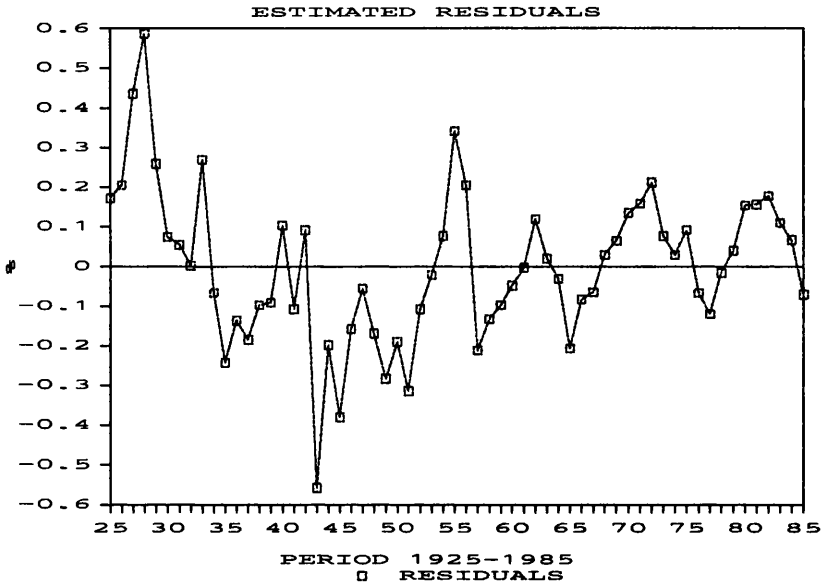
GRAPH 7

NOTES
Government expenditures net of interest debt repayments.
SOURCES
Informe del Contralor

A supplementary view is offered by the cycles of government spending around their trend -Graph 8-. The series of real government expenditures (in logarithms) can statistically be described as trend stationary, and will be used in our econometric estimations in Part III.[14] As seen, relative to the trend, the positive cycle of the late 20s has no parallel in more recent history. The four positive cycles after 1950 happened under different contexts: the two intermediate cycles corresponded to expansionary periods in which government projects were widely supported by the availability of concessional external funding. At the two extremes, the positive cycles emerged as a result of countercyclical policies implemented at the end of the coffee bonanzas of the early 1950s and mid-1970s.

GRAPH 8

REAL GOVERNMENT EXPENDITURES

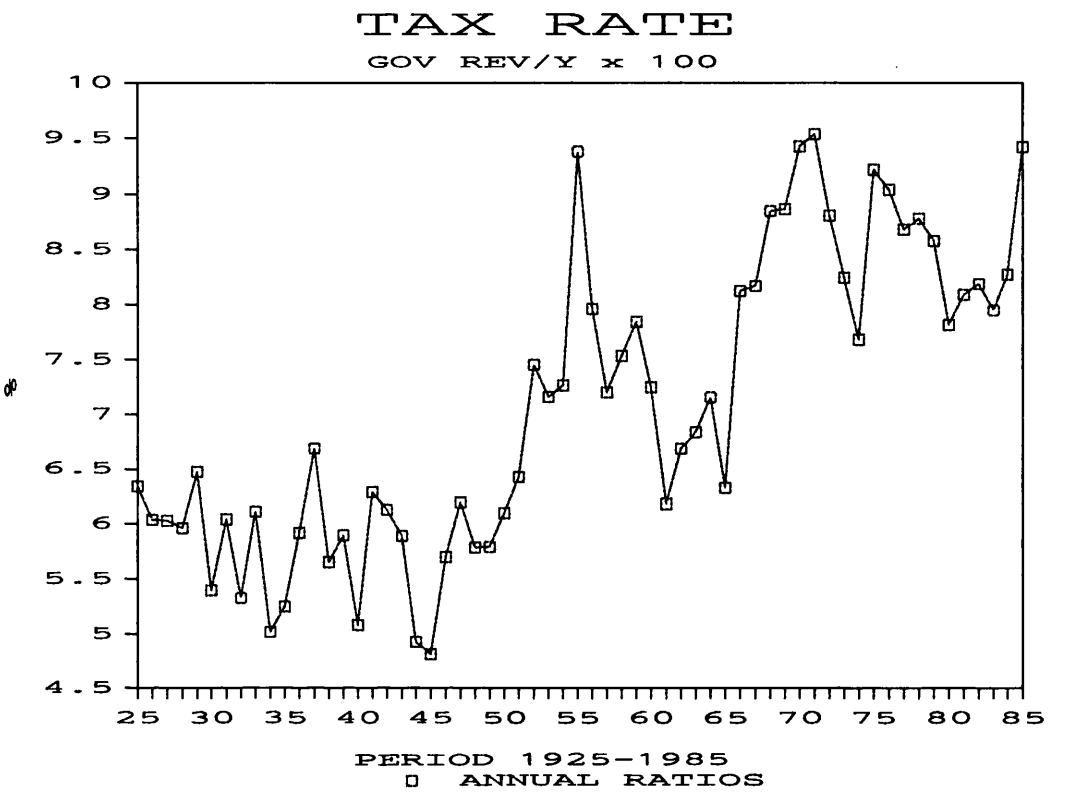


NOTES
Deviations from trend in logs.
SOURCES
Informe del Contralor

2. Central government revenues and primary budget deficit.

There is a similar shape between Graph 7 above and Graph 9 for the average tax rate below, particularly during the period before 1950.

GRAPH 9



NOTES
Government revenues as a percentage of GDP.
SOURCES
Informe del Contralor

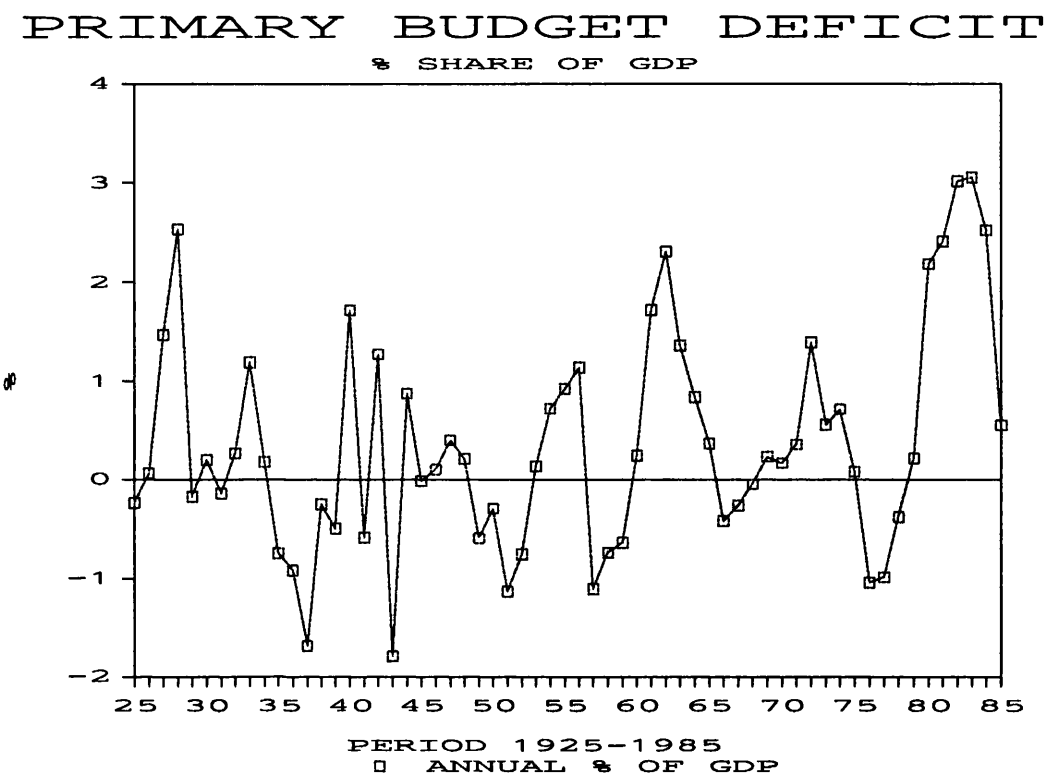
Discrepancies between graphs 7 and 9 are more obvious in recent decades such as in the early 1960s and 1980s when increasing ratios of government expenditures to GDP coincided with declining ratios of government revenues to GDP. These experiences differ from those of the 1950s and late 1960s when expenditure expansions were accompanied by revenue expansions, both as a proportion of GDP.

The ratio of government revenues to GDP is taken as the average tax rate. Though with ample oscillations, the average tax rate appears to have behaved in a procyclical way:

going down during recessionary periods such as 1929-34, 1956-66 and 1979-81; and going up in the first decade of the postwar period, and during the dynamic growth years between 1966 and 1973. A frequent reference to the trajectory of the average tax rate will be made in Part III, Section II.

The time paths of government revenues and expenditures are finally reflected in the evolution of the primary budget deficit -Graph 10-. A stop-go sequence of fiscal deficits characterizes the Colombian experience since 1950. Deficits in the early 1960s and 1980s were practically shaped by the evolution of government expenditures. The 1980s episode is singular since governments financed most of the increased spending with financial proceeds from the investment and management of international reserves accumulated during the coffee bonanza of the late 1970s. If these proceeds are treated as revenues in the same way as tax receipts the budget deficit of the early 1980s is replaced by an average surplus of about 1.3% of GDP between 1977 and 1985.[15]

GRAPH 10



SOURCES
Informe del Contralor

3. Public debt

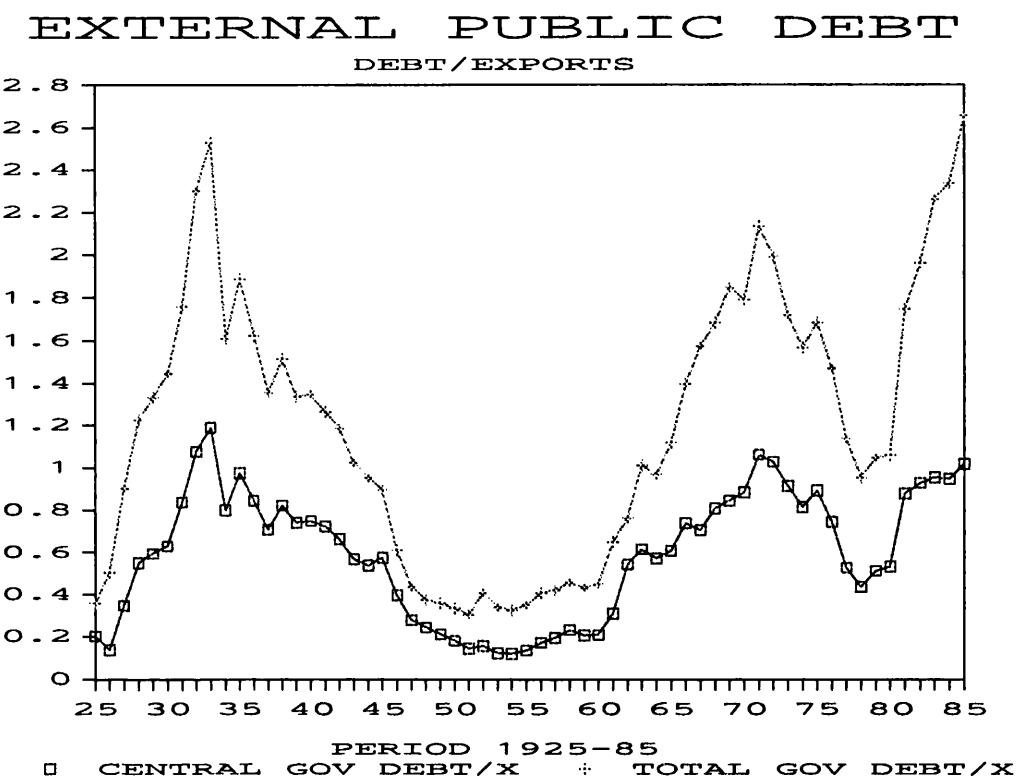
a. External debt

The public debt has been predominant in the composition of the total external debt. Some outstanding dates are illustrative. By the end of the U.S. lending boom in 1928, the percentage share was 71%. In 1950, when all the renegotiations of the external debt which had been defaulted in the 1930s were concluded, the share was 84%. These high figures declined during the 1960s and 1970s when the private sector gained a major portion of external credit. In fact, by 1970, when the access of the country to concessional sources of foreign lending was flourishing, the share of the public sector was 76%, and when the Latin American debt problem went off in 1982, the participation

of public indebtedness had fallen to 65%. In the following years the nominal external debt of the private sector (in US dollars) ceased to grow, while the public debt carried on rising; as a result, by 1985, last year of our series, the share of the public sector in the total external debt was 75%. With this perspective, our descriptions will concentrate on the external public debt.

Graph 11 shows the path of external public debt weighted by exports, D/X. The series is broken down according to the two main public debtors: the central government, and the rest of the public sector. The rest of the public sector is formed by public administrations different from the central government such as provincial authorities (departments) and local authorities (municipalities), and also by public enterprises. The difference between the two lines in the graph represents the relative importance of the rest of the public sector indebtedness. Three peaks dominate the series in 1933, 1971, and 1985 (last year of the series).

GRAPH 11



NOTES
External debt of the central government, and of the total public sector as a proportion of exports.
SOURCES
Banco de la Republica

The vertical upsurge of D/X during the 1925-33 period is illustrated by the fact that in 1925 less than 5 months of exports were required to pay off the whole public debt while in 1933 that requirement amounted to 30 months. Two different subperiods have to be noted, however. Between 1925 and 1928 public debt grew much more rapidly than exports, and the D/X ratio increased from 0.35 to 1.21. It has to be seen that this subperiod coincided with the U.S. private lending boom which expired by 1928. During the next five years the D/X ratio continuously increased, reaching the height of 2.52 in spite of the paralysis of foreign lending. This evolution is explained by a 55% collapse of exports, which as we will see in Part IV, Section I, was precipitated by the downturn of

commodity prices during the great depression. In conclusion, no more than 40% of the substantial increase of the D/X ratio during the 1925-33 period can be ascribed to actual indebtedness of the public sector. This upshot is important to understand how standard measures of creditworthiness (as D/X) were adversely affected by the international downfall of commodity prices.

The steep increase of the D/X ratio during 1925-33 was entirely reversed during the following years until the end of World War II. Some facts are to be noted. First, since the access to long-term lending had been suspended since 1928, the D/X fall is mainly explained by increased exports. Second, although an official moratoria of debt repayments was gradually adopted in 1932-33, the central government and other public entities made partial buybacks of external debt. A detailed exposition of this process is offered in Part IV, Section III.

The first fifteen years after the end of World War II seem to reflect a long interlude between episodes of accelerated external public indebtedness. But in fact, the nominal stocks of debt which had been declining since 1931 started growing again in 1948. Two phases can be distinguished in the "pause" period 1947-60. A first one between 1947 and 1953 when a notable increase of 70% in the nominal stock of external public debt resulted inferior to an upturn of exports of more than 100%. This upsurge of exports resulted from the coffee bonanza of the early 1950s. Conversely, the second phase was characterized by a minimum change in the nominal debt (3%) and a slightly negative growth of exports. The final effect of these facts was that along the "interlude" period no more than 4 months of exports were required to pay off the total amount of external public debt.[16]

Contrary to the experience of the 1920s, the sharp increase of external indebtedness during the 1960s was financed by official institutions, mainly the International Development Agency (IDA), the Interamerican Development Bank (IDB), and the World

Bank. At its height in 1971, central government indebtedness represented one year of exports, a burden just inferior to that experienced in the critical years 1932-33; the total indebtedness of the public sector amounted to over two years of exports, a burden similar to that of the years 1930-33. These debt burdens fell by 50% between 1971 and 1978, principally due to the rapid increase of exports: while the nominal stock of public debt doubled during these years, the nominal flow of exports multiplied by 4. As a matter of fact, the nominal increase of public debt between 1971 and 1978 exceeded that of the period 1960-71 of "high indebtedness". Therefore, the path of exports made a crucial difference for the increasing external debt burden in the 1960s followed by its sharp decline in the 1970s.

An important change in the sources of external funds for the public sector took place during the 1970s. Foreign commercial banks became increasingly important while official credits lacked the dynamism of the 1960s. Coinciding with the international boom of private commercial bank loans during the years 1978-82, 68% of the new external public indebtedness of Colombia was disbursed by those creditors. One of the similarities of this process with the experience of the 1920s was the private character of the lenders, though in contrast with that precedent, in recent times they were typified by bank syndicates instead of atomized investors, and loans were extended on a medium-, short-term basis rather than on a long-term basis. Another contrast is that, as commented above, although the 1982 crisis interrupted the "voluntary" lending of commercial banks to the public sector, the official lending sustained the curve of increasing external indebtedness. As a result, in the last year of the series the ratio of external public debt to exports outstripped the high coefficients reached at the time of the great depression.

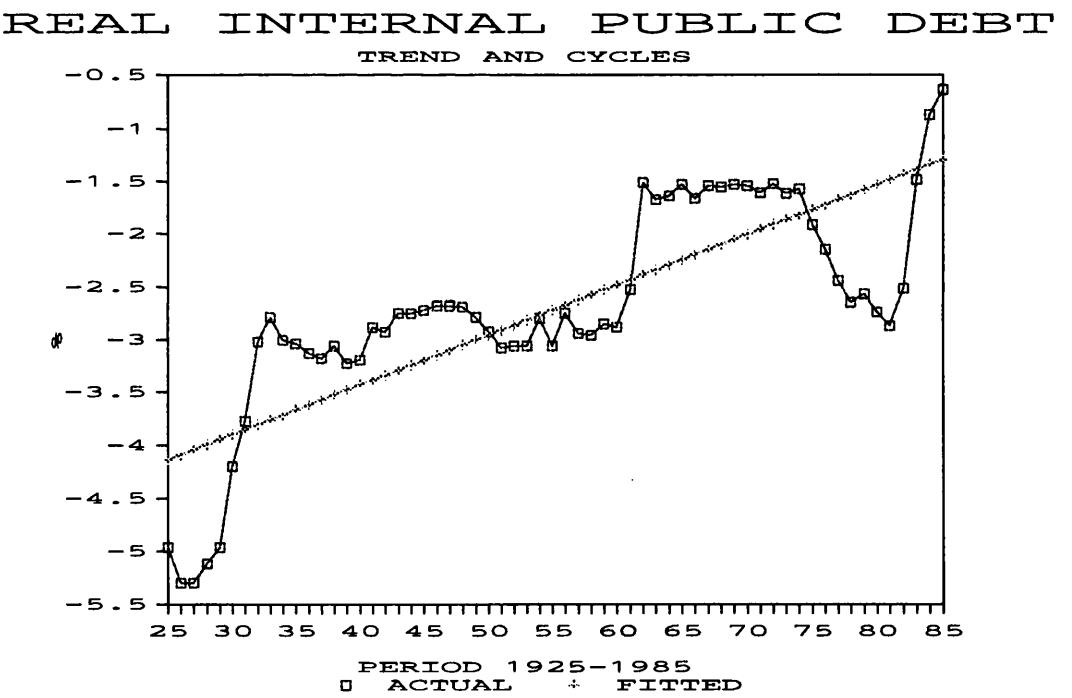
In conclusion, we highlight the following facts: First, the historical predominance of public indebtedness in the composition of the external debt of Colombia during the period of study. Second, the burden of the external public debt measured according to the D/X ratio has depended not only on the magnitude of public indebtedness (the

numerator) but importantly on the fate of exports in commodity markets. Consequently, adverse shocks on exports (such as in the early 1930s and 1960s) have negatively affected creditworthiness.

b. Internal debt

i) Trend and cycles

GRAPH 12



NOTES
Trend and deviations from trend in logs.
SOURCES
Banco de la Republica

Graph 12 displays the cycles of internal public debt between 1925 and 1985. On statistical grounds it can be shown that the series is stationary.[17] The historical growth rate of this series is equal to 4.5% per year and coincides with that of the economy. Four

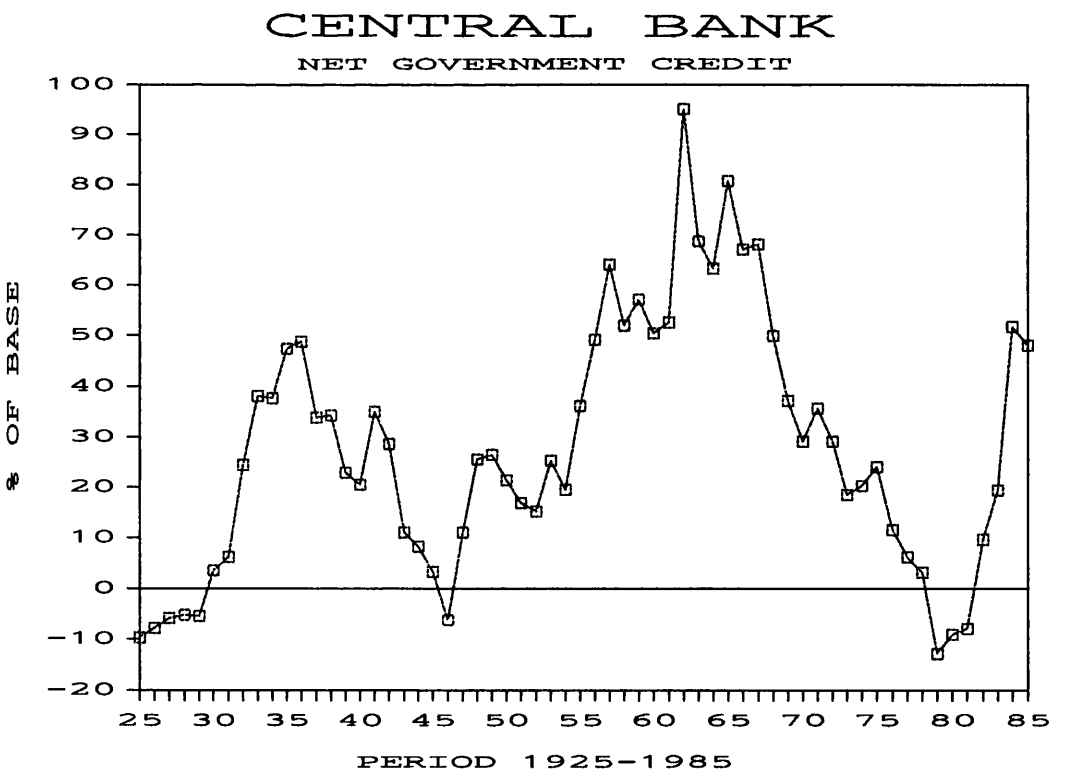
expansionary episodes are worthnoting: the 1932-33 extraordinary increase in internal debt after the negative impacts of the great depression on the external sector; the substantial enlargement of internal debt during World War II after the collapse of import duties and the implementation of policies orientated to smooth out adverse effects of the war on the economy; the early 1960s increase in government liabilities destined to finance central bank losses in the foreign exchange market, and also government programs in connection with national priorities and international objectives of the Alliance of Progress; and finally, the upsurge of internal indebtedness after the external shocks of the early 1980s, particularly the near extinction of commercial foreign lending to the country. These facts suggest a connection between severe external crises and exceptionally large internal debt upswings.

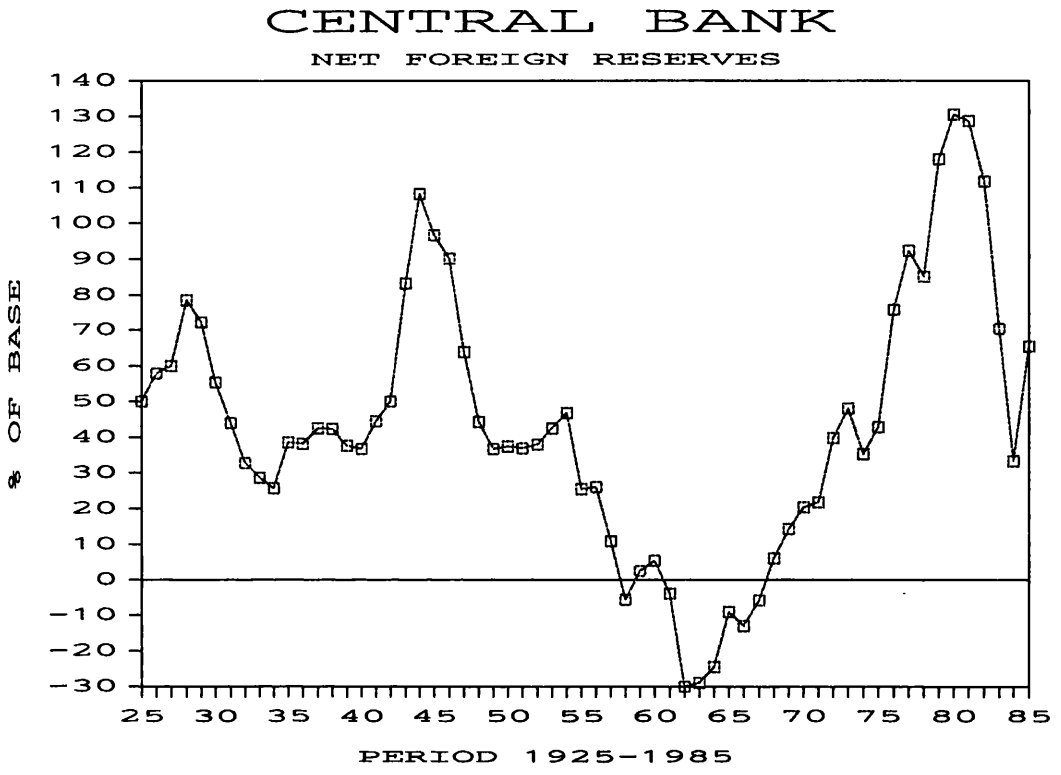
Some important economic and institutional characteristics have affected the evolution of internal public debt. The internal market for government bonds has been small, and the access of the government to central bank loans restricted by regulations whose severity has varied over time. How can then internal public debt have had any meaningful role in the Colombia's experience? How could the positive cycles of internal debt described in the previous paragraph have been financed? The main sources of financing have been ad-hoc central bank loans to the government whose extraordinary magnitude brought about internal debt growth rates above the historical trend, after periods of very low growth rates as in the early 1930s and early 1980s (Graph 12).[18]

The extraordinary loans of the central bank to the government are reflected in the composition of internal public debt. While during the 1930s those loans represented about 30% of the nominal stock of internal debt, in the 1983-85 period they amounted to 70%. The rest of the time during our period of study its importance was none or negligible, apart from temporary increases in the mid-1950s and first half of the 1970s.[19]

The central bank's credit to the government is not limited to the extraordinary loans just mentioned. The central bank is the "bank of the government", and therefore the relevant account which summarizes the financial relationship between the Treasury and the bank is the net credit to the government. This account is debited whenever loans and other lending operations to the government are made, and is credited as a result of Treasury deposits in the bank.[20] The concept of net credit allows us to examine the importance of government financing in the balancesheet of the central bank (GL in Table 2 of Part I, Section III). It also allows us to describe the relative weight of central bank credit in the domestic sources of government financing different from open market sales of bonds. Regarding the importance of GL in the central bank balancesheet, Graph 13 shows the percentage share of GL and net international reserves (Z in Table 2 of Part I, Section III) in the monetary base, respectively.

GRAPH 13





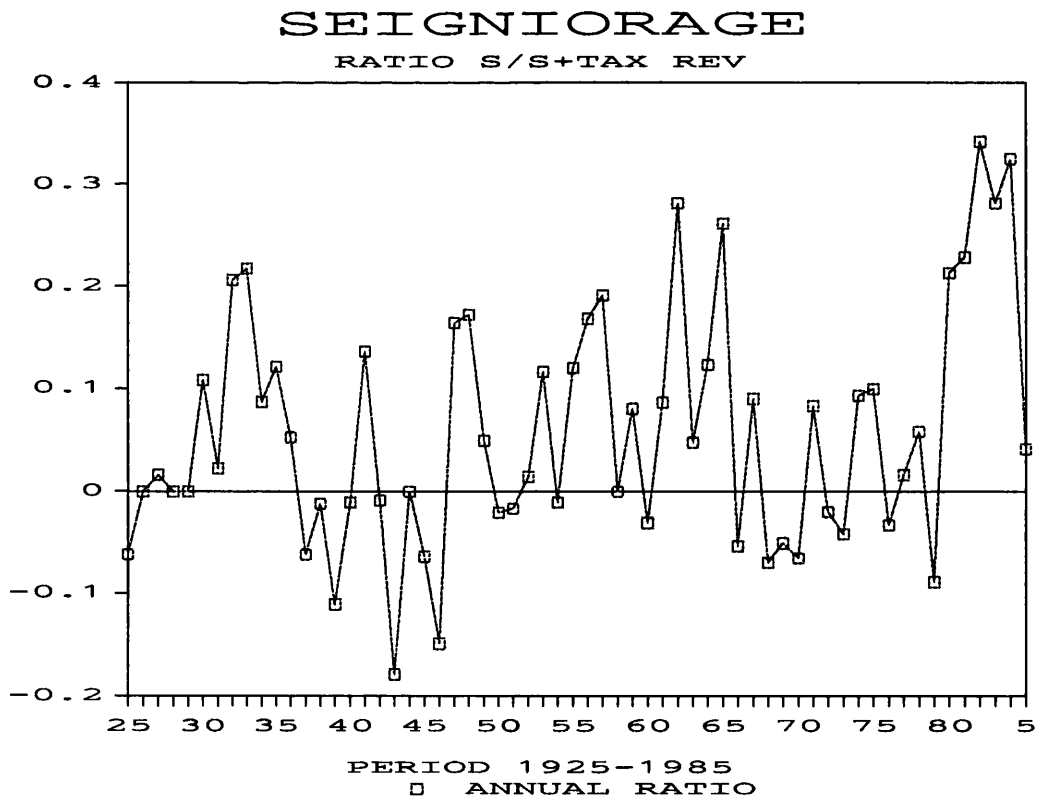
NOTES
Net credit of the central bank to the government, and net foreign reserves of the central bank, as a % of the monetary base.
SOURCES
Banco de la Republica

The message conveyed by these graphs is the countercyclical behaviour of the central bank net credit to the government. Whenever the share of international reserves in the monetary base increases (decreases), the share of net credit to the government falls (raises). The net credit to the government appears to be neutralizing -partially at least- the monetary effects of the balance of payments.

As for the share of central bank net credit in domestic sources of government financing different from bond sales to the public, we use the concept of seigniorage. We do not apply the conventional definition which considers the changes in the monetary base as a proportion of GDP, as applied, for instance, in Fischer (1982). We consider more

appropriate for our own purposes an alternative definition according to which seigniorage (S) is equal to the annual changes in net credit of the central bank to the government. These resources can be supplemented by the proceeds obtained by the government, if any, from the investment of international reserves. This sort of definition is favoured in recent literature, particularly in Drazen (1985, 1988) and Spaventa (1988). By considering seigniorage and tax revenues as a whole, the path of seigniorage over time can be depicted in relation to this total, as in Graph 14. As expected, seigniorage is mostly important in the 1930s, 1960s, and 1980s. Seigniorage is particularly meaningful in the 1980s, first due to unprecedented returns on international reserves in 1979-83, and second, due to substantial enlargements of net credit of the central bank to the government in 1982-85.

GRAPH 14



NOTES
Seigniorage (S): annual changes in net credit of the central bank to the government, plus financial proceeds from the investment of international reserves.

SOURCES
Banco de la Republica

The central fact that we want to emphasize at this point is how the positive cycles of internal public debt are created in response to severely critical periods of the external sector and internal depression. When it has been required, the extraordinary increases of internal debt have been financed by ad-hoc loans of the central bank to the government.

ii) The shock absorber role of the internal public debt.

We next try to document the shock absorber role of the internal public debt in a highly stylized way, based on the similarities of the Colombian experience both in the 1930s and 1980s, but minimizing references to specific details.

Consider simultaneous external shocks arising in both the goods and the capital markets. The severity of these shocks leads to paralysis in export sectors and deep recession in home markets. In the financial sector, the central bank experiences substantial losses of foreign reserves with the consequent drain on the money supply. As for commercial banks, both sides of the balancesheet are adversely affected: the suspension of foreign financing by international banks and the reduction of the money supply create strains on the liabilities' side, while because of the recession (and deflation as in the early 1930s) the quality of assets is critically damaged by a high proportion of bad loans. An economy-wide debtors' problem arises and there are symptoms that the public is losing confidence in the stability of the banking system.

How do authorities react to these developments? At the very beginning they express their conviction that the external problem is a temporary one, and therefore there is no justification for changes in policy. As the external position of the country deteriorates

authorities adopt contractionary measures on public spending (a draconian adjustment in the 1930s) to alleviate pressures on the balance of payments; it is understood that this is the best contribution of the government to the stability of the exchange regime (gold standard in the early 1930s and a fixed real exchange rate in the early 1980s). Regarding the external debt, authorities consider that the reduction or suspension of foreign lending being a temporary phenomenon, the best way of regaining access to international credit is to honor thoroughly the debt service, regardless of unilateral suspensions of debt service adopted by other debtors. In a nutshell, authorities judge that fiscal austherity, exchange rate stability and full repayment of the external debt service contribute to stabilize the economy and guarantee the resurgence of external lending to the country.

It is the rapid depletion of international reserves, the proximity of collapse of the banking system and extraordinary developments in foreign capital markets (particularly in the 1930s with the abandonment of the gold standard by Great Britain [1931], and the devaluation of the U.S. dollar [1933]) which lead authorities to change policies. Those changes initially contemplate the adoption (as in 1931) or reinforcement (as in 1983) of exchange controls and commercial policies to stop the drain on foreign reserves long before more drastic measures are imposed (in the 1930s these strong measures meant suspension of the gold standard and adoption of a managed-float-exchange-rate regime, and partial default on the external debt service. In the 1980s they only meant substantial acceleration of the rate of depreciation of the crawling peg to correct an overvalued exchange rate).

Where is internal public debt in this story? In spite of the government expenditure retrenchment a substantial budget deficit appears. It is the endogenous result of the adverse external shock originated in the export market (in particular the collapse of coffee prices after periods of bonanza in the late 1920s and late 1970s) and the subsequent slowdown of economic activity. By then, getting fresh external funds for fiscal purposes is a remote possibility, and the banking system finds it extremely difficult

to finance imports, an important (crucial in the early 1930s) source of tax revenues. Up to this point the stock of internal public debt has been increased by selling bonds to the public, and also to the central bank, within strict regulations which limit the loans to the government to a certain proportion of the capital of the institution.

The role of internal public debt is not limited to provide automatic stabilization, however. Even this function is substantially constrained by a relatively small market for public bonds (in the early 1930s severely affected by lost of confidence in financial markets), and the aforementioned restricted access to central bank loans. At some point authorities find themselves with a badly depressed domestic economy (and substantial deflation in the early 1930s), international reserves nearly exhausted, vital export sectors going bankrupt, the banking system facing insolvency rather than illiquidity, the treasury accumulating a backlog of immediate obligations, and no hope of getting funding abroad. After adopting the new exchange and foreign debt policies mentioned above, authorities turn to policies of domestic recovery (reflation in the 1930s), rescue of the banking system and support of crucial economic sectors (coffee growers in the 1930s). Authorities obtain from Congress the legal authorization for extraordinary loans of the central bank to the government, with limited amounts, temporary character and specific purposes (recapitalization of banks, public works and others. In the 1930s a war with a neighbouring country demanded additional loans). This is the extraordinary and temporary expedient by which internal public debt absorbs part of the negative effects of the external shocks on the economy.

What is coming next? Authorities embark in a process of fiscal reform substantially orientated to strengthen tax revenues (in the 1930s to consolidate direct taxation and reduce the fiscal dependence from custom duties, and in the 1980s to simplify existing systems and reinforce the VAT). Also authorities seek to accommodate to the new situation in foreign capital markets (sporadic short-term loans from subsidiaries of

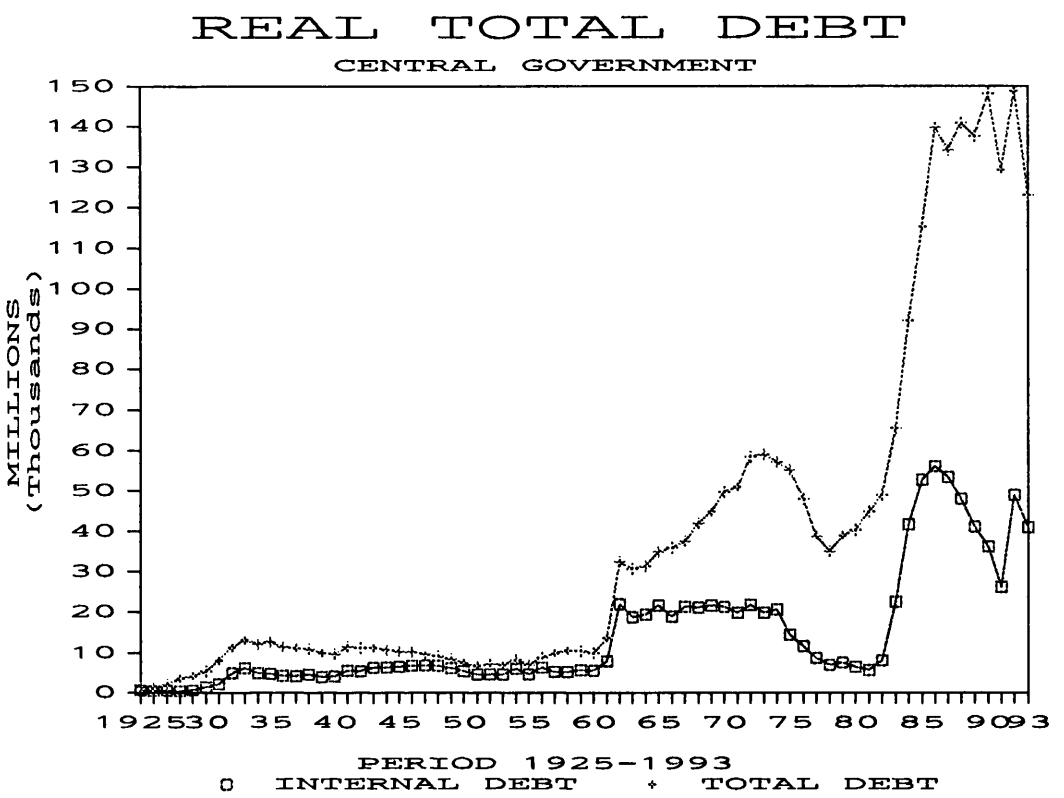
foreign companies in Colombia during the 1930s, and only refinancing loans, instead of fresh credits, between 1983 and 1990).

How do the extraordinary loans affect the maturity structure of the internal public debt? Although originally designed as short- or medium-term operations, the experience shows that the repayment of those loans is deferred well into the future (most of the extraordinary loans of 1932-34 due to be amortized by 1940 were actually redeemed in the early 1970s. Similarly, the extraordinary loans of 1983-1984 which were supposed to be repayed in the following two years were transformed into a 30-year loan). In other words, the tax burden of the shock absorbing increases in the internal public debt is largely translated to future generations of tax payers.

4. The path and composition of central government debt.

So far we have described the path of the external public debt as well as the cycles of internal debt, but have not reported the relative composition of total public debt of the central government between their external and internal components. This is what we do in Graph 15, where the real external debt is the area between the graphs for the real total debt and for the real internal debt. The series have been updated to 1993 although our period of study ends in 1985. Apart from reasons mentioned in the next subsection, we preferred to bring up to date the series not to leave the reader with the impression that the real debt persisted increasing without bound after 1985; as seen in the graph, a "ceiling" was achieved in the second half of the 1980s.

GRAPH 15



SOURCES
Informe del Contralor

Three main periods can be distinguished in the evolution of the real total debt. First, the interwar period during which three phases alternate. At the beginning of the series (1925) the internal debt represented 45% of the total, but due to the extraordinary access to the US lending during 1926-28, that figure declined to 16% by 1928. With the collapse of foreign lending, the share of internal debt started growing since 1930, and after the reflationary policies of 1932-33 (fully detailed in Part IV, Section II) reached the figure of 46%. Due to stabilization policies during World War II the share of internal debt rose to 60%, and to 72% in the late 1940s, this time due to the rapid decline of the outstanding external debt which followed the renegotiations carried out during the decade.

The second period covers from the mid-1950s to the mid-1970s. During the second half of the 1950s the external debt started growing continuously and the participation of the internal debt declined. In 1962 the internal debt "jumped" (the real stock tripled) during a severe external crisis, and its share was again close to 70%. Since 1962 up to 1974 the internal debt grew only to sustain a relatively constant real stock, but its share declined to 35%; during the same period the real stock of external debt quadrupled.

The last period covers from the mid-1970s to the early 1990s. For some years (1975-1978), both the external and the internal debt declined, but the latter at a very much greater pace; by 1981 the external debt was growing again and the share of the internal debt reached its lowest figure in the series: 12%. A new phase started in 1982: the internal debt "jumped", again coinciding with a new external sector crisis which involved not only the current but the capital account. Repeating an experience similar to that of the early 1930s, the internal debt increased reaching a share of 45% by 1985. Graph 15 is eloquent about the rapid recovery of external debt since 1984. In fact, the real stock of external debt doubled between 1984 and 1990. In the meantime, the real stock of internal debt continuously declined since 1986, and its share was only 25% by 1990. Finally, the reaction of internal debt at the end of the series corresponds to a deliberate substitution of internal for external debt destined to reduce an unintended overaccumulation of international reserves.

An important factor which affects the composition of the public debt in national currency is the depreciation of the exchange rate, since the external debt is contracted in foreign currencies. Some examples can be mentioned regarding important changes in the share of external debt as revealed in Graph 15. As for the period 1962-1973 during which the share of the external debt increased from 32% to 67%, only 23% of the increment in the nominal stock of external debt (in Pesos) can be ascribed to changes in the stock (in US dollars), 18% to variations in the exchange rate, and 58% to a mixed effect of changes in both the dollar stock of debt and the exchange rate. Also during the 1982-1986 period,

during which the real external debt doubled, only 11% of the change in the nominal stock can be explained by the increase in the stock (in US dollars), 63% by depreciations of the exchange rate, and 26% by a combined effect of both variables.

These descriptions corroborate our previous observations that the internal debt tended to move in the opposite direction of the external debt. It has also been established that important changes in the composition of total debt in national currency, in favour of the external component, are largely explained by debt-revaluation effects of exchange rate changes.

5. The intertemporal government budget constraint.

Having observed the evolution of government expenditures, government revenues and public debt, is there any way in which we can use the government accountancy to discuss the "internal consistency" of fiscal expenditures, revenues and indebtedness over time? The accounting framework suggests that such an assessment can be carried out with reference to the present value government budget constraint. Put in the context of the rational- actor framework, our question amounts to ask whether governments have followed sustainable financial policies in the long run.

As seen in Part I, Section I, sustainability has been a recurrent topic in public debt theorizing. The solvency of a nation was the focus of attention in Domar (1950) application of Harrod-Domar models to foreign debt issues, and the common thread in analyses of Latin American and other international borrowers written for the World Bank in the 1960s (Avramovic and Gulhati, 1958, 1960; Avramovic et al. 1964). This literature revived during the debt crises of the 1980s (general illustrations are provided in Cline [1983], Kharas [1984], and Simonsen [1985]). We do not discuss here the national solvency, but the solvency of the central government, and apply an approach which is

closer to the representative-agent models discussed in Part I, Sections III and VI, than to the Harrod-Domar models.

The budget constraint faced by the government in period t+1 can be written as follows:

$$B_{t+1} - B_t = rB_t + G_{t+1} - T_{t+1}$$

where the left-hand side shows the change in total (internal and external) real public debt during t+1, and the right-hand side shows the interest service (domestic and world interest rates are assumed equal) paid on the real stock of debt at the end of t, and the primary deficit incurred at t+1. The single-period budget constraint can be transformed into an intertemporal relationship by performing recursive substitutions for successive future values of the real stock of debt (B_{t+j}, j=1,2,...). Taking expected values (E) at time t, the solvency constraint of the national government is:

$$B_t = -\sum_{j=1}^{\infty} V^j E_t[G_{t+j} - T_{t+j}] + \lim_{j\to\infty} V^j E_t B_{t+j}$$

where V = 1/(1+r).

For the solvency constraint to hold, the following terminal condition has to be satisfied:

$$\lim_{j\to\infty} V^j E_t B_{t+j} = 0$$

This terminal condition shows that the solvency constraint holds so long as B does not increase faster than r. An alternative reading of the solvency constraint indicates that provided the terminal condition is satisfied, the outstanding value of B is equal to the present value of future government surpluses.

The empirical implications of the solvency constraint have been examined. As indicated by McCallum (1984) and Hamilton and Flavin (1986) the present value budget constraint is compatible with a constant budget deficit inclusive of interest payments. This implication is developed in a stochastic context by Trehan and Walsh (1988) who

showed that the necessary and sufficient condition for the solvency constraint to hold is that the first difference of the stock of debt (B_{t+1}-B_t), namely, the deficit inclusive of interest payments [(G_{t+1}-T_{t+1})+rB_t] is stationary.

Since we want to know whether the terminal condition is a valid representation of the fiscal series previously described, we start by checking stationarity in the series of deficit inclusive of interest payments. We use a standard Augmented Dickey-Fuller (ADF) statistics to test for the presence of unit roots; if the results of the test indicate the absence of unit roots, it means that the series is characterized by a stationary process, and thus we cannot reject the null hypothesis that the terminal condition is satisfied. As seen in Table 3, column 4, the presence of unit roots is comfortably rejected. This statistical result supports the idea that, overall, Colombian authorities followed sustainable financial policies during the period of study.[21]

TABLE 3
Tests for Unit Roots and the
Government Solvency Constraint
Sample Period: 1925-1985

	(1) G_t	(2) $G_t+r_tB_{t-1}$	(3) T_t	(4) $[G_t+r_tB_{t-1}]-T_t$
Constant	-854.9	-848.4	-623.2	-839.4
	(-1.12)	(-1.1)	(-1.07)	(-1.5)
Trend	82.2	81.6	62.9	54.2
	(2.1)	(2.0)	(1.94)	(3.0)
Lagged level	-0.058	-0.053	-0.012	-0.49
	(-1.39)	(-1.31)	(-0.28)	(-6.6)
No of lags of differenced variable	1	1	2	2

Notes

(1) t ratios in parentheses

(2) ADF test: $dx_t = a + bt + (l-1)x_{t-1} + \sum_{i=1}^{n} h_i dx_{t-i} + e_t$

where $dx_t = x_t - x_{t-1}$, (a) and (b) stand for constant and time trend respectively, and (e) is an error term. The t-statistic on (l-1) tests the null hypothesis that this coefficient is zero, namely, that l=1 and x_t contains a unit root. The t-statistics has a non-standard distribution under the null that x_t is non-stationary. Critical values for the case under study (61 annual observations) are: -4.15 at the 1% significant level, -3.5 at 5%, and -3.18 at 10% [Fuller (1976), Table 8.5.2. p.373]

(3) Tests for the possible existence of a second unit root in the processes for G_t, $G_t+r_tB_{t-1}$, and T_t were also carried out. The t-ratios for the lagged first differences were as follows: -4.09, -4.07, and -6.80, for G_t, $G_t+r_tB_{t-1}$, and T_t respectively. In conclusion, the processes for the variables on discussion are integrated of order 1, I(1).

An equivalent test of the solvency constraint relies on the cointegration of (G_t+rB_t) and T_t. As shown in Table 3 there is one unit root in the process for (G_t+rB_t) and also one unit root in the process for T_t. Being these two processes integrated of order 1, both are cointegrated, provided the residuals obtained from regressing one on the other are

stationary (Engle and Granger, 1987). Table 4 shows the results of regressing (G_t+rB_t) on T_t and the reverse, as well as the unit root (ADF) tests applied on the residuals of those regressions (the appropriate critical values were tabulated by Engle and Yoo [1987]). As seen, the two variables under comment are cointegrated with cointegrating vector [1 -1.17]. Since both cointegrating equations exhibit heteroscedasticity (the reported ARCH statistics are highly significant) which would question the power of the previous unit root tests, based on the assumption of homoscedasticity of the errors, a further test which does not require such assumption is applied. This is the $Z\hat{}\alpha\_$ test [Phillips (1987, p.287), Phillips and Ouliaris (1990, p.171)]. Once more, the results indicate the rejection of the null hypothesis of no cointegration.

Table 4
Cointegration Tests
Sample Period: 1925-1985

1. Regression of tax revenues on government expenditures inclusive of debt interest.

$T_t = 0.83[G_t+r_tB_{t-1}]$

$R^2 = 0.978$ ARCH [F(4,52)] = 65.1

Residual regression:

Lagged level coefficient:-0.853

ADF test:-7.384

Lags of differenced variable: 3

Phillips' Z^α test: 14.001

2. Regression of government expenditures inclusive of debt interest on tax revenues.

$[G_t+r_tB_{t-1}] = 1.17T_t$

$R^2 = 0.978$ ARCH[F(4,52)] = 79.9

Residual regression:

Lagged level coefficient:-0.833

ADF test:-7.274

Lags of differenced variable: 3

Phillips' Z^α: 14.216

Notes

(1) Both residual regressions included up to 3 regressors. The critical values tabulated by Engle and Yoo (1987) for the ADF tests are:-3.75 at 5% and -4.46 at 1% significant level respectively.
(2) The critical value for ARCH[F(4,52)] at 5% significant level is 2.56
(3) Since only one explanatory variable appears in the cointegration equation, and neither constant term nor trend have been considered, the critical values for the Z^α test are as follows:-15.64 at 5% and -13.81 at 7.5% significance level. Phillips and Ouliaris (1990, p.189). The null hypothesis of no cointegration is rejected at the 5% level if the computed value of the statistic is smaller than -15.64. In both cases 10 autocovariances were used.

Similar results should be expected if instead of testing for stationarity of the deficit inclusive of interest payments we check for stationarity in the first difference of the stock of debt. The stationarity of this variable is confirmed at just 10% significance level for the period of study 1925-1985, but at 1% for periods such as 1925-1982 (just before the recent Latin American debt crises started) or the whole series 1925-1993.[22] As seen in the previous subsection regarding Graph 15, the 1982-86 period was dominated by a substantial jump of the internal debt, followed by a vertical increase of the external debt (in Pesos) since 1984 coinciding with strong depreciations of the exchange rate. As a whole, the real stock of debt multiplied by 3.1 in the brief period 1982-1986, an experience only comparable with that of an equally long period, 1929-1933, when the real stock of debt multiplied by 3.7. These extraordinary circumstances represented by a vertical upswing in Graph 15 could have affected the behaviour of the series so as to yield less significant stationarity results in first differences.

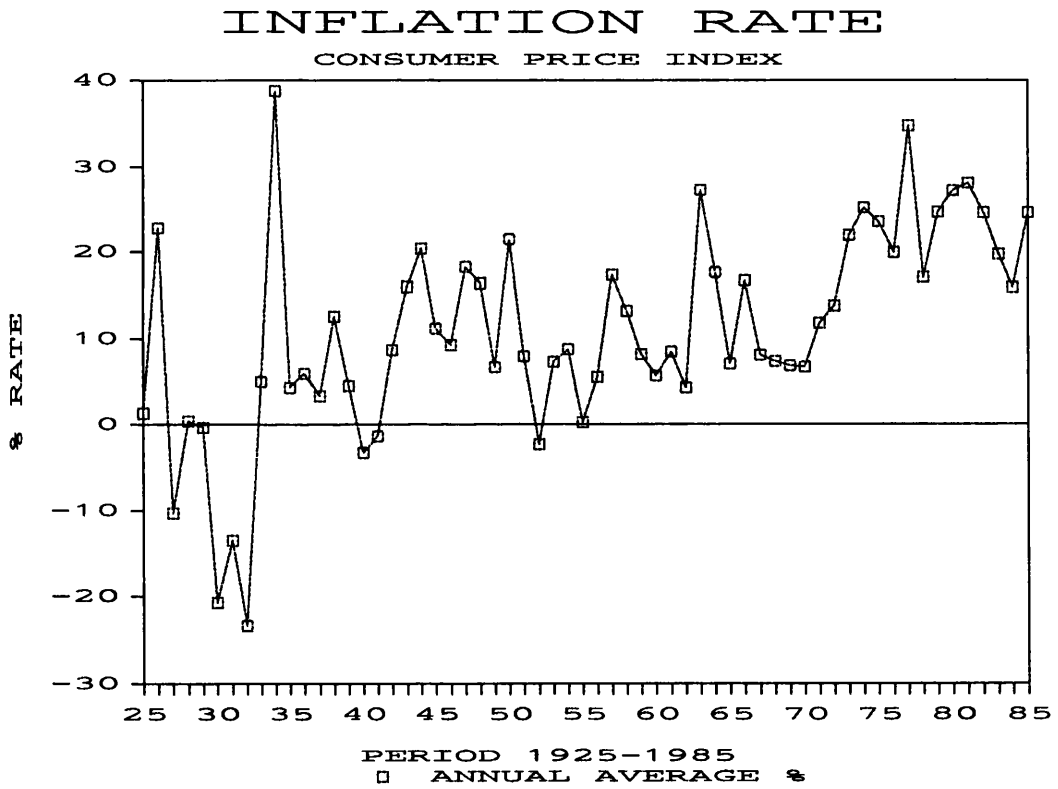
To sum up, the accounting framework of present values allows us to get a further understanding of the consistency of long-run government financial policies in our case study. Our survey of fiscal facts can be enriched by this general idea that the Colombian government has led sustainable financial policies over time.

6. Tax rates and inflation

Graph 16 shows the rate of inflation path along the period of study. Two great phases can be observed. The first one -1925 through 1955- reflects the dramatic changes of the external sector which accompanied the boom of the late 1920s, the impacts of the great depression which led to an average deflation rate of 19% during 1930-32 (23% only in 1932) and a new deflationary episode after the outbreak of World War II. A one-shot spectacular increase in the rate of inflation right to the peak of 39% in 1934 followed activist reflationary policies implemented after the suspension of the gold exchange standard. Inflationary waves arose under different external contexts: during the second

half of the War when with a blocked imports trade a rapid and unprecedented accumulation of international reserves resulted in a huge expansion of base money; and in the immediate postwar years, in spite of the contractionary effects of boosting imports which drained the stock of foreign reserves previously accumulated. Both episodes were followed by deflationary policies which abated the inflationary upsurge, and even reached nil or negative rates in the early 1950s.

GRAPH 16



SOURCES
CEPAL (1957)
IMF

In the second great phase two subperiods can be differentiated: an interval of mild inflation between 1956 and 1970 when disregarding a notable once-for-all increment in

1963 the average inflation rate did not exceed 9%; and an interval of higher inflation between 1971 and 1985 when the average inflation rate was above 22%. A distinctive characteristic of this last subperiod was the permanence of inflation rates at high levels. Inflation rates crossed the threshold of 20% after the first oil-price shock and remained at that height revealing the presence of inertial components which tended to reproduce past rates of inflation.

Why are we looking at the evolution of inflation rates in the middle of our discussion of government expenditures, tax revenues and debt? An important approach to public finance analyzes inflation from a public finance viewpoint. This approach follows Phelps contributions (1972, 1973) which we reviewed in Part I, Section VI. The optimal public finance model sees inflation rates as a result of an optimal choice of taxation. Additionally, the theory predicts a positive and proportional relationship between tax rates and the rate of inflation. Our previous description, however, does not seem to support the idea that inflation rates have resulted from a deliberate choice of taxation. Nor it appears to exist a direct and proportional relationship between tax and inflation rates (graphs 9 and 16).

As reviewed in Part I, an important strand of literature follows Mankiv (1987) who combines Barro (1979) original modern exposition of the tax-smoothing theory and Phelps (1973) contribution to the theory of public finance.[23] Mankiv aimes to show that if monetary and fiscal policies are used to optimally finance government expenditures, the inflation rate and the tax rate will behave like random walks, and evolve together over time. The inflation rate is taken as a proxi of the tax rate on real money balances.

A simple test of the central implication of the theory that higher inflation rates and higher tax rates are associated over time may be performed by examining the correlation of average tax rates with the inflation rate. The regression of the rate of inflation (INFL) on

the government revenue percentage of GDP (TAX) and a time trend (TIME) for 1925 to 1985 yields (with t-statistics in parentheses)

$$INFL = 16.2 + 0.59TIME - 3.35TAX$$
$$\quad\quad (1.9) \quad\quad (5.0) \quad\quad (-2.1)$$
$$R^2 = 0.38 \quad\quad DW = 1.64 \quad\quad N: 61 \text{ annual observations.}$$

This simple exercise is similar to that applied by Mankiv (1987) to the U.S. experience during the period 1952-85, and by Roubini and Sachs (1989) to the performance of 15 OECD countries during the period 1960-85. Mankiv found a positive and significant correlation between the average tax rate and the rate of inflation, in support of the tax-smoothing theory. Roubini and Sachs confirmed Mankiv finding for the United States and found support for the underlying hypothesis in the case of two other OECD countries; however, no significant correlation between (INFL) and (TAX) was found for other 12 countries, and even for five countries the sign of the relationship between these two variables was negative.

In our case, there is a significantly negative correlation between the variables under discussion, therefore rejecting the applicability of the theory to the Colombian experience. The coefficient on (TAX) is notably large, suggesting that an increase in taxes of 1% of GDP is associated with a reduction of 3.4% in the inflation rate. The absence of positive correlation between (INFL) and (TAX) is not a strange result after our discussion of the paths followed by the average tax rate and the inflation rate (graphs 9 and 16). While the theory implies that governments choose inflation rates as part of optimal tax decisions, our description of episodes did not leave that impression.[24]

The testing procedure employed by Mankiv, and Roubini and Sachs, has been questioned for not exploring the full implications of the theory, in particular for not inquiring about integration and cointegration properties of the processes for inflation and tax rate. As

seen in Part I, Section VI, authors such as Grilli (1989) and Trehan and Walsh (1990) show how under the tax smoothing framework, non-stationarity of the processes for (INFL) and (TAX) is a necessary condition. In our case, it can be shown that contrary to the theoretical requirement, both processes are stationary.[25] These results should be interpreted with some caution, however, since as recalled by Grilli et al. (1991), the prediction that "optimal" tax rates are non-stationary is obtained from models which do not take into account that tax rates are bounded between zero and one.

In conclusion, our discussion of graphs 9 and 16 suggest that inflation rates have not been a public finance fact in the Colombian experience. Further insights indicate that the processes for the inflation rate and the tax rate do not match with theoretical predictions.

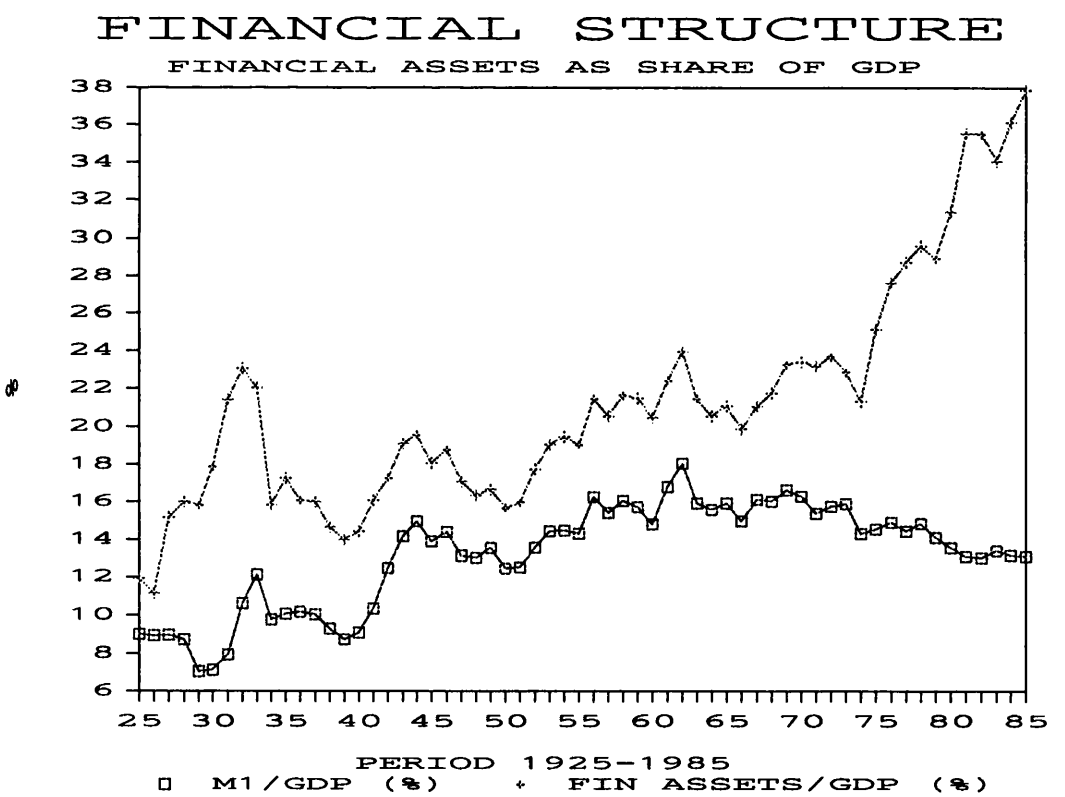
D. Financial intermediation and public debt.

This last section shows how financial intermediation in Colombia has been affected by the boom-and-bust cycles of external capital markets, and how under extreme circumstances the collapse of financial institutions has been prevented by the use of internal public debt. A description of ups and downs of the financial intermediation system adds new elements to our introductory picture of external and internal debt.

As a background for the reader, Graph 17 depicts the evolution of two standard indicators of financial deepening: one is the ratio of the money supply to output (M1/GDP); and the other one the ratio of financial assets in the hands of the public which are liabilities of financial institutions, to output (Financial assets/GDP). Three phases are clearly distinguished: an extraordinary development of the financial system relative to the size of the economy during the booming late 1920s interrupted by a sudden collapse in 1932; nearly four decades of stagnated financial progress until the late 1960s; and finally, a substantial and sustained process of financial deepening.

Crucial institutional changes opened the first phase. A financial reform in 1923 instituted the system of central bank and commercial banks following the model of the U.S. Federal Reserve System. Commercial banks were assumed to do the job foreseen in the English private banks model, namely, lending operations on a short-term basis (trade and working capital loans). As for the long run, mortgage banks were created or reorganized to compete for savings, locally and abroad, and to grant loans to agriculture and housing sectors.

GRAPH 17



SOURCES
Banco de la Republica

Why the ephemeral success of financial intermediation during the first phase? External capital markets proved to be critical. With the apogee of private long-term funds in the

New York financial market in the mid-1920s mortgage banks could sell an important proportion of their long-term issues to foreign investors. At the same time commercial banks enjoyed an easy access to short-term funds in U.S. commercial banks. Long-term funds for mortgage banks were sharply suspended after the 1929 crash, and short-term finance dried out in 1931. While the external expansion flourished, internal financial intermediation burgeoned with the general prosperity of the economy; and with the cessation of international lending and the negative impacts of the great depression (deep recession cum deflation) the process of financial deepening came to a halt.

Only a decisive government intervention in 1932-33 avoided the collapse of the banking system, and more generally, of the credit structure in the economy. The internal public debt played a vital and extraordinary role in this process. Through a variety of ways which are spelled out in detail in Part IV, Section II, the internal public debt helped restore the machinery of private credit. One outstanding measure was the creation of official banks destined to replace the bankrupt mortgage banks; the initial capital of the new institutions was largely financed by the central bank through the acquisition of equity shares, or through loans whose liability was assumed by the government.

A model of centralized financial decisions -in the sense of Gurley and Shaw (1955, 1956)- predominated since the early 1930s through the late 1960s. The newly organized official banks were destined to supply credit to agriculture, industry and construction, according to government policy priorities. Interest rates were subjected to regulations after the great depression, and demand deposits became the main source of funds of private commercial banks; Graph 17 shows how financial intermediation ratios hinged on changes in the money supply rather than on interest-bearing deposits, for over three decades. During this period commercial banks became regular suppliers of loans to the government, and important investors on bonds of the internal public debt.

During the phase of stagnated financial deepening, which largely coincided with inactivity of world private capital markets (1930s to 1960s), the access of private commercial banks to external funds was basically limited to the financing of external trade operations. However, some official banks were granted loans from developmental institutions. The Eximbank was an important source of funds even before the end of World War II. Later the World Bank and other agencies continued these special operations. Finally, during the 1960s developmental loans were granted by international organizations to newly created investment banks; these banks were established to attract long-term domestic and international funds required by the financing of projects in manufacturing, import-competing, and export-promoting sectors.

A new phase of accelerated financial deepening characterized the 1970s, as a result of policies of financial liberalization and greater access to external private capital markets. The former favoured a major diversification of financial assets, and stimulated competition (e.g. the creation of building societies in the early 1970s which disputed the predominance of commercial and investment banks. Competition began eroding the traditional centralized-financial-decisions model, and a rapid increase in financial deepening indicators was lived through the mid-1970s as revealed in Graph 17). The latter coincided with the boom of foreign commercial bank loans in the second half of the 1970s. Colombian banks not only trippled their external debt between 1978 and 1981 but some of them opened offshore branches and engaged in lending operations to foreign debtors.

By 1981 there were clear examples of crisis in the domestic financial system after the end of a coffee bonanza which dominated the second half of the 1970s. In this context, the aftermath of the Mexican debt crisis in 1982 had devastating effects on a system which was increasingly relying on external short- and medium-term funds. Domestic branches of Colombian banks faced a virtual paralysis of external trade financing, and some offshore branches practically went bankrupt. Offshore branches confronted the

simultaneous effect of accumulating unpaid loans which immovilized their assets, and the suspension of external credits; headquarters had to accept the burden left by failed offshore expansion and consider solutions as a whole.

Repeating the experience of the 1930s authorities intervened to avoid the collapse of the financial system. Governments resorted to increase internal public debt to strengthen the capital of some banks. Additionally, an important proportion of the external debt of private offshore branches was nationalized; as a matter of fact, it was the pressure of creditors (syndicates of commercial banks) during negotiations which eventually led to the extreme measure of nationalization. These episodes are extreme illustrations of how originally private-sector debts are transformed into public-sector debts. At the end of our period of study the financial system was back on its path of financial deepening: in 1985 the percentage ratio of total financial assets to GDP reached 38% compared with 23% in 1970 when the economy just recovered the peak level of financial deepening achieved before the great depression.

E. Looking ahead

In Part II we have gathered stylized facts as an introduction to our econometric work in Part III, and the historical narrative in Part IV. In Part III our main purpose will be to model and test our hypothesis about the shock absorber role of internal public debt. In the process of specification of the models and interpretation of the econometric results, our survey of stylized facts will prove useful. We have already introduced trends and cycles of GDP, imports, government expenditure and external financing, which as we will see in Part III will be crucial variables for explaining the behaviour of internal public debt.

PART II

NOTES

1. Berg and Sachs (1988) highlight "the heavy political influence of the coffee growers" in the adoption of exchange-rate as well as financial policies which led to a relatively low foreign indebtedness of the country in the Latin American context.

2. The relative weight of agriculture in the Colombian case can also be illustrated with reference to other major Latin American debtors. While during the U.S. lending boom of 1925-29 the shares of agriculture and industry in GDP in Colombia were 52% and 8% respectively, the corresponding figures in Argentina were 26% and 20%, in Brazil 22% and 13%, and in Mexico (a major historical debtor although not an important borrower in the late 1920s) 22% and 21%. Later, in the 1975-79 period, coinciding with the beginning of a new borrowing boom, while the Colombia's shares were 26% and 22%, the relevant figures for Argentina were 13% and 35%, for Brazil 8% and 33%, for Chile 9% and 39%, and for Mexico 9% and 31%. Mitchell (1993).

3. Some caution has to be used when interpreting GDP and price series in the Colombian case. As with other countries in the region, national accounts for the 1920s to 1940s were estimated by the United Nations (Economic Commission for Latin America, ECLA) during the 1950s. Further, the quality of price series for the 1920s and early 1930s has been questioned by researchers of the period (e.g. Díaz-Alejandro, 1983; Thorp and Londoño, 1984). Some researchers have opted for excluding the 1920s from their time series based on national accounts. For our own purposes a full consideration of the 1920s is essential. It has to be noted that the first great lending boom of this century took place between 1924 and 1928, and Colombia was an outstanding borrower not only in the Latin American context but on a wider international basis.

4. The recursive least squares coefficient for the trend of real GDP changes over time, with the final estimate lying outside the initial confidence interval. Additionally, it is only during World War II that the time path of the coefficient declines. To remove the influence of the war (an exogenous shock!), the specification of the test for stationarity includes a dummy variable for the 1940-1945 period. The Augmented Dickey-Fuller test (ADF) for the lagged dependent variable is -3.32 which is significant at the 10% level. If we excluded the 1920s as commented in the previous note, the series would be stationary at the 5% significance level (the ADF test is -3.69 which exceeds the critical value of -3.50).

5. This accumulation of short-term trade debts was refinanced by means of parallel arrangements with the Export-Import Bank and commercial banks (a consortium of New York private banks), concurrently with a stand-by arrangement with the IMF. The notable fact here is that for the first time since the collapse of external financing in the early 1930s a syndicate of private banks was offering credits to Colombia.

6. The estimated coefficient for the trend of the PPE (according to recursive least squares) shows a substantial fall during World War II, before recovering its previous growing path. A new though more moderate fall is observed during the "strangulation period" 1955-1965. The series is stationary provided that dummy variables are considered to account for the two periods just mentioned. The ADF test for the lagged dependent variable is -4.15, which coincides with the critical value at the 1% level.

7. In Colombia the share of imports in GDP has fluctuated substantially over time. High points were achieved during the booming late 1920s and the 1950s (around 13%), and low points during the great depression and World War II (around 5%). During the 1960-1985 period the average share was 11.5%.

Even in relatively closed economies the income elasticity of imports may be high. In the U.S. case (where the share of exports and imports was around 4% in the 1950s and 1960s, and about 7% in the 1950s to mid-1980s), estimates of the income elasticity of imports up to the mid-1980s varied between 1.5 and 2.0 (Dornbusch and Fischer, 1986). In countries were imports are restricted by the availability of foreign exchange, such as in our case study, the income elasticity of imports is expected to be low. Econometric evidence suggests that in the Colombia's case this elasticity is around 0.4 and a similar coefficient is found for the elasticity with respect to PPE.

8. The ADF test is -3.22 for the lagged level of the dependent variable, which is significant at the 10% level (critical value:-3.18). If a dummy variable is allowed to account for the 40% collapse of imports in 1942, during World War II, the ADF test is now -4.57, which is significant at the 1% level (critical value:-4.15).

9. As for TB, in our historical discussion (Part IV, Section II) we will indicate that for some exportables the annual figures of exports did not correspond to actual export revenues. For the moment we do not take into account that consideration.

10. The ADF test for the lagged value of the dependent variable is -4.30 which is significant at the 1% level (critical value:-4.15)

11. The historical trend, obtained as a semilogarithmic regression of the real exchange rate on a constant and time is 1.3%.

12. By comparing the deviations from trend (in logs) of the exchange rate and the international reserves (not shown), it can be observed that positive cycles of the real exchange rate arise when the stock of international reserves grows at a rate which is less than the historical trend. This behaviour has been discussed in the literature related to the Latin American experience with crawling-peg arrangements. For instance, Yuravliker (1984) finds that for a set of countries authorities tended to reduce the rate of devaluation of the crawling peg when international reserves increased above desired levels. Edwards (1984) applies a similar reflection to the Colombian experience in the late 1970s.

13. Government expenditures are defined as the annual flow of government expenditures excluding any payment for interest on internal and external debt. This definition will allow us to use the concept of primary budget deficit, below.

14. The ADF test for the lagged value of the dependent variable is -3.5 which coincides with the critical value at the 5% level.

15. At the end of Part III, Section I we will discuss a seemingly conflicting evidence reported by the paths of internal debt, government expenditures and government revenues. As we will see, the solution of the "puzzle" depends on whether the proceeds on international reserves are treated either as legitimate government revenues or as a source of financing "under the line".

16. An important episode took place in the mid-1950s. It was a substantial accumulation of trade debts in the aftermath of the coffee bonanza (1954-57) which required extraordinary balance-of-payments loans. These exceptional and temporary loans were granted with the only purpose of refinancing short-term trade debts and entirely repayed before the mid-1960s.

17. The ADF test for the lagged value of the dependent variable is -3.9 which is significant at the 5% level (critical value: -3.5).

18. The experience of the early 1940s and early 1960s was different. In the first case, there was a massive and to a great extent forced allocation of public bonds in the private sector as part of a plan of stabilization during World War II. In the second case, large losses of the central bank in the foreign exchange market during the "external strangulation" period were transformed into government liabilities.

19. At least two precisions have to be made about the importance of central bank loans in the 1930s. First, only during the brief period 1931-33 there were significant loans to the government reaching a share of over 30% of internal debt; the share remained practically constant up to 1937 simply because in a period of stagnated internal debt there were no amortizations of loans up to that year. Second, there was an abrupt reduction of loans to nil values in the early 1940s which did not correspond to amortization in the usual way; it was a conversion of a government liability into a long-term investment of the central bank. Otherwise the loans share would have continued at its previous level.

20. Historically, other lending operations included items such as conversions of external obligations of the government into internal debt, and the results of specific transactions carried out by the central bank which were finally charged to the public debt. Examples of the first case can be found since the 1940s (Eximbank loans) and were common in the 1960s (IDA and other international agencies' loans). The best example of the second case is offered by the losses made by the central bank in the foreign exchange market during the 1960s (note 18 above) which were charged to the public debt.

21. Also the primary deficit (G_t-T_t) is stationary since based on the ADF test it is possible to reject the null hypothesis of a unit root in the process for (G_t-T_t) at the 1% significance level (The t-ratio for the lagged level of the dependent variable is -6.47 compared with the critical value of -4.15). This is not a crucial result regarding the solvency constraint since as shown by Trehan and Walsh (1988), stationarity of (G_t-T_t) is neither necessary nor sufficient for the budget to be intertemporally balanced. However, it is of interest in tax-smoothing discussions, where as shown by Trehan and Walsh it is expected that (G_t-T_t) is nonstationary.

22. The relevant unit root tests are as follows (t-values in parentheses). Critical values as in Table 1.

Period 1925-1982
First unit root

$$dx_t = \underset{(1.10)}{0.01938}x_{t-1}$$

Critical value for the Dickey-Fuller test:-1.61
Serial Correlation LM-F(4,52)=1.61, Crit 5%:2.54
Second unit root

$$ddx_t = \underset{(-5.10)}{-0.654}dx_{t-1}$$

Critical value for the Dickey-Fuller test:-1.61
Serial Correlation LM-F(4,51)=0.07
Conclusion: The series is stationary in first differences.

Period 1925-1985
First unit root

$$dx_t = \underset{(1.60)}{0.0346}x_{t-1} + \underset{(5.81)}{0.7233}dx_{t-1}$$

Critical value for the Dickey-Fuller test:-1.61
Serial Correlation LM-F(4,53)=0.42
Second unit root

$$ddx_t = \underset{(-1.61)}{-0.1746}dx_{t-1}$$

Critical value for the Dickey-Fuller test:-1.61
Serial Correlation LM-F(4,54)=0.02

Conclusion: The first differences of the series of the real total debt are just stationary at 10%.

Period 1925-1993
First unit root
$dx_t = -2650 + 195.6t - 0.107x_{t-1} + 0.026dx_{t-1} + 0.7dx_{t-2}$
(-1.3) (2.6) (-2.96) (0.21) (5.43)
Serial Correlation LM-F(5,56) = 2.21, Crit 5%:2.38
Second unit root
$ddx_t = -2719.3 + 129.8t - 1.132dx_{t-1}$ (+ 6 lags of ddx_t)
(1.3) (2.3) (-4.39)
Serial Correlation LM-F(4,48) = 0.52, Crit 5%:2.56

Conclusion: The series is stationary in first differences.

23. While in Barro's contributions the revenue from money creation is disguised within the whole array of distortionary taxes (on personal income, etc.), Mankiv and subsequent contributors explicitly and formally discuss the role of the inflation tax.

24. That inflation cannot be exclusively explained from a public finance perspective is a position sustained by the inspirators of the theory (Phelps, 1972). The theory was formulated on prescriptive rather than on descriptive grounds. The transition to descriptive grounds has been encouraged by empirical research in the last decade, as we noted in our literature review in Part I, Section VI.

25. The ADF tests for unit roots in the process for INFL and the log of TAX are (t-values in parentheses)
INFL
$dx_t = -0.92 + 0.29t - 0.75x_{t-1}$
(-0.35) (3.4) (-5.87)
Serial Correlation LM-F(4,53)=1.53, Crit 5%:2.54
TAX (in logs)
$dx_t = 0.77 + 0.004t - 0.47x_{t-1}$
(4.2) (3.7) (-4.29)
Serial Correlation LM-F(4, 53)=1.35, Crit 5%:2.54

Since the critical value for the ADF test at 1% significant level is -4.15, in both cases the null of non-stationarity is rejected.

PART III

The behaviour of the internal public debt in Colombia. Econometric analysis.

Introduction

In Part III we present the bulk of our quantitative work regarding the Colombian experience with public debt. Since we intend to estimate and test models, we apply econometric techniques. Our central hypothesis already introduced in Part II is the shock-absorber role of the internal public debt.

Two stages characterize the process of empirical research. In the first stage we test the hypothesis of the shock-absorber role of the internal public debt. We largely rely on historical documentation concerning public debt in Colombia and the behaviour of relevant economic time series that we described in Part II. Guidance from economic theory is assured by recalling paradigms which were previously reviewed in Part I. The econometric results offer a strong support to the hypothesized shock-absorber role of the internal public debt. At this point we start the second stage. In a broad sense, we follow the Lakatosian advice (Lakatos, 1970) of pursuing a "progressive research strategy". Having successfully tested the shock absorber hypothesis, we go on to test whether when using internal public debt as a buffer, governments also introduce changes in taxation. The econometric results suggest that governments do not discard adjustments in taxation while using internal public debt as a financial buffer.

At each stage we develop and test a different model. In the first stage the model is derived from the government's intertemporal budget constraint. It is shown how cycles in the internal

public debt are explained by cycles in the explanatory variables. The estimating equation is derived from a conventional, structurally non-invariant model. In the second stage, the estimation equation is derived from a new classical model which presumes a forward-looking behaviour of governments and the notion that the internal public debt acts as a buffer. The model embodies the characteristically new classical distinction between planned and unplanned changes in the variable under study.

Two sections integrate this part, one for each one of the stages of research just mentioned. The organization of the sections is similar, starting with a detailed presentation of the models. The methods of econometric estimation and the corresponding results are also discussed at length. Finally, an attempt is made to interpret the econometric results in light of the broad characteristics of the economy discussed in Part II.

SECTION I

The shock-absorber role of the internal public debt.

Introduction

This section is an attempt to model our hypothesis that the internal public debt has played the role of shock absorber in the Colombian economy. So far we have offered stylized expositions of how this role has been performed (Section II, C). Such discussions have been largely based on historical knowledge. We now aim to formalize them and characterize the available statistical information in parametric relationships which are interpretable in light of economic paradigms.

We build a model based on the government budget constraint in which the dependent variable is the deviation from trend of the internal public debt. The explanatory variables are shocks on the sources of tax revenues (output and imports), shocks on government expenditures, and shocks on external financing. These shocks are also modelled as deviations from the historical trends. The model shows how when output, imports, government expenditure and external financing grow at their historical rate, the internal public debt grows at the rate of the economy. The relevant statistical series are taken from our previous exposition of stylized facts on public debt in Colombia, in Part II.

We follow standard econometric methods for evaluating our estimated model, and present estimations for the whole sample period (1925-1985) and also for subsamples. It is shown how the sample period estimation satisfies prevailing criteria regarding statistical and economic interpretation of the estimated parameters. Based on the estimation results and our former descriptions in Part II, we describe the cycles of the internal public debt during the period of study.

The section starts with a brief reference to economic paradigms which were discussed at length in Part I, and which guide our interpretation of the econometric estimations.

A. The paradigms.

Despite major analytical differences, three lines of thinking discussed in Part I offer a general guidance for the empirical work, namely, the Keynesian model of fiscal deficits (Sections I and IV), the life-cycle hypothesis with its implications for fiscal policy choices (Section V), and the tax-smoothing model of deficits (Section VI).

Regarding the Keynesian model, we refer to the Keynesian-Lernerian principle of "functional finance". In this framework, a balanced budget over the business cycle is the outcome of deficit policies during recessions and surplus policies during prosperity. The stabilization of the economy is the criterion invoked to assess budgetary policies, and taxes and government expenditures are active policy instruments.

As for life-cycle theories, a central concern is the ability of budgetary policies to redistribute welfare between generations. In order to preserve a balanced budget over the business cycle, life-cycle exponents advocate discretionary and procyclical tax rates. What is behind this position is a defence of the principle of intergenerational equity. It is asserted that generations benefited by tax reductions during depressions are the same who finance increased tax rates and surpluses at high activity levels.

The tax-smoothing model argues for cyclically invariant tax rates. Deficits during recessions and surpluses during prosperity result from automatic fiscal stabilizers. Fiscal deficits during depressions are interpreted as optimal responses of the economic system to temporary low-income periods.

As seen, the three paradigms favour a balanced budget over the cycle as a whole, but fiscal activism or discretionary policies are ingredients of the Keynesian or the life-cycle prescriptions which do not find room in the tax-smoothing theory. These alternative theoretical positions determine the expected coefficients in applied work. While the tax-smoothing framework predicts unitary coefficients (in absolute value) for changes in public debt due to shocks on output and government expenditures, the other two frameworks predict a coefficient greater than one in the case of output, and less than one in the case of government expenditures (This last assertion is more explicit in an LCH framework where on grounds of intergenerational equity it is expected that a temporary increase in government expenditures should be partly financed by increased taxation. In a Keynesian context the expected coefficient could be less or equal to one depending on the mix of debt and taxes chosen by authorities).

Our empirical work is different from what is usual in the literature, since instead of considering the stock of total debt (or the changes in this variable) as a function of other economic variables, we separate out the internal debt from the external debt, and treat the former as the dependent variable, and the latter as one of the explanatory variables. The reasons for this specification were offered before in our discussion of "stylized facts" in Part II. Essentially, we emphasize the shock absorber role of internal public debt, and highlight the exogenous nature of external financing. The historical documentation of the Colombian experience reveals that the internal debt and the external debt are not perfect substitutes. While the latter is largely determined by the cycles of private foreign credit and the availability of developmental loans, the former is constrained by limited domestic financial markets and restricted access to the credit of the central bank. Only under exceptional circumstances (deep recessions, wars), and after ad hoc parliamentary legislation, would the government had access to extraordinary lending from the central bank. These specific aspects of our study do not invalidate the applicability of the 'paradigms', however, but extend their application. For instance, our model below discusses not only the textbook countercyclical role of the internal public debt concerning

output fluctuations, but also its countercyclical function regarding shocks on external financing to the economy as a whole.

B. The model.

In our discussion of "stylized facts" (Part II, C, 5) we showed how according to public accountancy, the Colombian government satisfied its intertemporal budget constraint during the period of study. We now go back to the government budget constraint as the starting point for our discussions on the internal public debt.

A simple expression for a government budget constraint which discriminates between external and internal debt is

$$dF + dF^* = (G - T) + rF + r^*F^*$$

where dF and dF* represent the changes in the real stocks of the internal and the external debts respectively, (G-T) is the real primary deficit, and r and r* are the real interest rates on the internal and the external debts respectively. Regarding tax revenues, T, our "stylized facts" (Part II, B, 1) highlight the crucial historical importance of imports in the tax base. Based on those facts we propose to make an explicit differentiation between imports and other sources of tax revenues which for simplicity we relate to the GDP. Bearing these considerations in mind, a simple two-period government budget constraint can be represented as follows:

$$(F_t - F_{t-1}) + (F^*_t - F^*_{t-1}) = rF_{t-1} + rF^*_{t-1} + G_t - \tau(Y+M)_t \qquad (1)$$

where the terms in parentheses on the left-hand side are the changes in the internal and the external debts respectively, r is a constant real interest rate applicable to both the internal and the external debts, G_t is the real flow of government expenditures exclusive of interest payments, and τ is the tax rate equally applied on real output (Y) and real imports (M).

Equation (1) gives the change in F_t and F^*_t between any two equal periods of time. By solving this equation forward it is possible to extend the analysis to a finite period (T) or to the infinite horizon ($T \to \infty$). Assuming for simplicity that the government has an infinite time horizon, and imposing the transversality conditions

$$\lim_{i \to \infty} F_{t+i}/(1+r)^i = 0$$
$$\lim_{i \to \infty} F^*_{t+1}/(1+r)^i = 0 \qquad (2)$$

the intertemporal budget constraint is

$$F_{t-1} + F^*_{t-1} = \sum_{i=0}^{\infty} [\tau(Y+M)_{t+i} - G_{t+i}](1+r)^{-(i+1)} \qquad (3)$$

The two equations in (2) state that neither the stock of internal debt nor the stock of external debt grow faster than the interest rate forever. Equation (3) means that the present value of primary fiscal surpluses to be obtained in the infinite horizon is exactly equal to the sum of the initial stocks of the internal and the external debts.

The discussion of the government budget constraint can be extended by considering the steady-state case in which the variables Y_t, M_t and G_t grow all at the same rate, n. The actual values of these time series fluctuate around a trend which grows at the common rate n. The present values of these series are calculated by using the Gordon model of corporate finance (Copeland and Weston, 1988), according to which the present value of a series growing at a constant rate n (assumed to be less than r) is given by

$$X^P = (r-n)\sum_{i=0}^{\infty} X_{t+i}(1+r)^{-(i+1)}$$

Therefore, the normal or permanent values for the variables under discussion are as follows

$$Y^P_t = (r-n)\sum_{i=0}^{\infty} Y_{t+i}(1+r)^{-(i+1)} \qquad G^P_t = (r-n)\sum_{i=0}^{\infty} G_{t+i}(1+r)^{-(i+1)}$$

$$M^P_t = (r-n)\sum_{i=0}^{\infty} M_{t+i}(1+r)^{-(i+1)} \qquad (4)$$

By substituting the permanent values Y^P_t, M^P_t and G^P_t from (4) into (3), the intertemporal budget constraint can be rewritten as

$$F_{t-1} + F^*_{t-1} = [\tau Y^P_t + \tau M^P_t - G^P_t]/(r-n) \qquad (5)$$

Now, by substituting from (5) into (1) where we have previously added and subtracted the same amounts nF_{t-1} and nF^*_{t-1} leads to the following expression for the two-period government budget constraint:

$$(F_t - F_{t-1}) + (F^*_t - F^*_{t-1}) = \tau(Y^P - Y)_t + \tau(M^P - M)_t + (G - G^P)_t + n(F_{t-1} + F^*_{t-1}) \qquad (6)$$

where the (X^P-X) terms represent shocks on the corresponding variables. The shocks on Y_t and M_t appear weighted by τ, thus giving the deviations of Y_t and M_t from their trend values as a proportion of the normal amount of revenues.

At this point we can introduce some rearrangements and modifications which will prove useful in our empirical analysis. First we can rewrite the government budget identity in terms of the internal public debt as follows:

$$[F_t - (1-n)F_{t-1}] = \tau(Y^P - Y)_t + \tau(M^P - M)_t + (G - G^P)_t - [F^*_t - (1-n)F^*_{t-1}] \qquad (7)$$

Since n is a constant growth rate, the presence of n on the left-hand side represents a single increment of the internal debt at rate n. The same applies to the external debt on the right-hand side. Then, equation (7) shows that in the absence of shocks on output, imports, and government expenditures, and provided that the external debt does not grow

at a rate different from n, the internal public debt will grow at the trend growth rate of the economy [$F_t = (1+n)F_{t-1}$]. Second, since we are interested in the analysis of a period of sixty years, instead of a single increment between two periods, it is convenient to apply a constant rate of continuous compounding to the variables F_t and F^*_t; these constant rates are the corresponding trend growth rates of F_t and F^*_t. Therefore, (7) may be rewritten as

$$(F-F\sim)_t = \tau(Y^P-Y)_t + \tau(M^P-M)_t + (G-G^P)_t - (F^*-F^*\sim)_t \qquad (8)$$

where F~ and F*~ stand for the trend values of F and F*. Equation (8) is the basis of our empirical analysis. The terms $(X-X^P)$ are equivalent to the residuals obtained from semilogarithmic regressions of each variable on a constant and a time trend. The same applies to the terms (F-F~) and (F*-F*~). The next step is to formulate an estimating equation for the model in (8). This is what we do in the following subsection.

C. Empirical analysis.

The empirical equation to be applied to annual observations over the period 1925-1985 is

$$Fu_t = a_0Fu_{t-1} + a_1Yu_t + a_2Mu_t + a_3Gu_t + a_4f'u_t + e_t \qquad (9)$$
$$\qquad\quad (+) \qquad (-) \qquad (-) \qquad (+) \qquad (-)$$

where the dependent variable Fu_t represents estimated deviations from trend of the internal public debt. Similarly, the explanatory variables are also estimated deviations from trend of the corresponding variables. All the variables are in logarithms with the exception of $f'u_t$ (estimated innovations for external financing scaled by exports) because this series is sometimes negative. e_t is an error term.

The time paths of the regressand and regressors in equation (9) were described by individual graphs in Part II. The evolution of Fu_t appears in Graph 12. The original series

corresponds to the year-end nominal stocks of the internal public debt between 1925 and 1985. The real values of the series were obtained by using the GDP deflator. The evolution of Yu_t is shown in Graph 2. The original series is the annual values of GDP in real terms. The time path of Mu_t appears in Graph 5. The original series is the year-end values of real imports in US$. The time path of Gu_t is depicted in Graph 8. The original series excludes interest repayments, and its real value was obtained by using the GDP deflator.

The time path of $f'u_t$ is portrayed in Graph 6. As seen in Part II.B.2, the flow of external financing f' includes not only the flow of foreign lending to the national government dF* (which we used in our discussion of the government budget constraint, above), but also foreign lending to the rest of the public sector and the private sector; these concepts are net of interest repayments abroad. Additionally, f' includes the flow of foreign direct investment. In our estimating equation (9) we use this concept of f' rather than a narrower one which only includes the foreign lending to the national government. The reason for this choice was advanced in our stylized discussion of the shock absorber role of the internal public debt in Part II. Accordingly, it is the collapse of net foreign financing to the country, and not only to the national government, which encourages the reaction of the internal public debt.

1. Expected signs.

Consider first positive (negative) shocks on GDP which lead this variable to grow above (below) its trend. The internal public debt is expected to grow below (above) its trend, and therefore the expected sign is negative. A similar consideration can be made regarding shocks on imports. According to our "stylized facts" in Part II.B., custom revenues have been of critical importance in the composition of total tax revenues. The internal public debt is expected to grow below (above) its trend when imports grow above (below) their own trend, and thus the expected sign is negative. Regarding government expenditures, it

is expected that temporary deviations from trend will cause the internal public debt to deviate from trend in the same direction, and therefore the hypothesized sign is positive.

The term $a_0 Fu_{t-1}$ accounts for lagged effects of the growth rate of internal debt. We expect that the current deviation of internal debt from trend should be a positive function of its lagged value. Graph 12 in Part II brings out a notable persistence of periods in which internal debt grows above its trend. We explain this behaviour as a result of institutional factors associated with the maturity structure of the internal public debt. As mentioned in Part II.C.3., after episodes of extraordinary increases of the internal debt (particularly in the 1930s and 1980s) governments transformed their substantially enlarged short-term financial obligations into long-term liabilities.

Finally consider the term $a_4 f' u_t$. The internal public debt is expected to grow above (below) its trend, whenever the flow of net external financing to the country grows below (above) its trend. This hypothesized relationship is derived from our discussions in Part II according to which governments resort to internal financing to cushion the impact of changes in external financing on the economy. The proposed sign is negative.

2. Expected coefficients.

How can we interpret the coefficients in equation (9)? As for the coefficient of the lagged dependent variable a_0, the expected coefficient is strictly greater than zero, and strictly less than one. a_0 is expected to say what percentage of the lagged deviation from trend of the internal public debt in a given period persists to the next period. Regarding the output's innovations coefficient a_1, consider the case in which tax revenues T depend on a proportional income tax and a constant tax rate ($T=t\sim Y$). When only built-in fiscal stabilizers are at work, and the deficit is only financed with internal debt, the hypothesized coefficient is $a_1=1$. As seen in Part I, Section VI, this is the magnitude of a_1 postulated by the tax-smoothing theory. Alternatively, when automatic stabilization is reinforced by

procyclical changes in tax rates the expected coefficient is $a_1>1.0$. Finally, a coefficient $a_1<1$ cannot be discarded if in the event of automatic stabilization part of the deficit is financed with external debt; if this is the case, although tax smoothing applies, the model cannot be informative about that result.

The discussion of the expected magnitude of a_2 is somewhat more complicated. Governments alter tariffs not only for fiscal purposes. There may exist protectionism and/or balance-of- payments reasons for changing tariffs' levels. These reasons could be put forward regardless of whether imports are growing at their normal rate or above or below that rate. In general, revisions of tariffs seek to satisfy a combination of interests; for instance, protectionism and fiscal revenues. Some possibilities can be described in order to postulate expected magnitudes of a_2. The simplest case is that in which given a constant tariff, collected duties rise (fall) when imports grow at a higher (lower) rate than their normal. This is a tax-smoothing case which yields $a_2=1$; the important assumption is that for instance in the case of a fall in collected duties the government does not have access to or does not use external credit to finance the emergent deficit.

A second possible case postulates $a_2<1$. Two options may be considered. One is the illustration just given in which the tariff level is kept constant regardless of positive or negative cycles of imports; the difference is that in this instance governments finance part of the ensuing deficit (when duty revenues fall) with external credit and the remainder with internal debt. The final effect is tax smoothing, though the model itself cannot inform about that result. The model only shows the direct response of internal debt to shortfalls in imports. The alternative option considers a mixture of increasing internal debt and higher tariff levels, and possibly some external financing. To sum up, a coefficient $a_2<1$ indicates that a hypothetical negative fiscal effect of a downturn in imports is partly financed by an increase in internal financing but is inconclusive about the behaviour of tariffs.

Under a tax-smoothing framework governments use public debt to finance temporary and unexpectedly high expenditures. A coefficient $a_3=1$ is expected under the assumption that governments avoid affecting tax rates during emergency periods and finance the upsurge of temporary expenses with an increased internal debt. A coefficient $a_3<1$ indicates that only a fraction of positive cycles in government expenses is financed by increases of internal debt. But once more the model is inconclusive about tax smoothing; governments could avoid changing tax rates by using a combination of internal and external credit.

Regarding the coefficient a_4 we hypothesize a coefficient less than 1. The reasons for expecting $a_4<1$ are not based on theoretical considerations but on historical experience. In Part II.C., we emphasized the temporary and partial character of important increases in internal debt in response to sudden reductions in external financing. Then the proposed coefficient is $a_4<1$.

To sum up, our empirical model inquires into the causes of deviations of internal debt from its historical trend. Shocks on output, imports, government expenditures and external financing are explanatory variables. The hypothesized magnitude of the coefficients $a_1=a_2=a_3=1$ corresponds to one of our paradigms, the tax-smoothing theory. Were the estimated parameters (a_1, a_2, a_3) close to 1, the evidence would favor that approach. However, by specification the model fails to recognize other possibilities of tax smoothing since estimated parameters such as $a_2<1$ and $a_3<1$ could be consistent with the actual validity of that framework. Finally, the inclusion of the once-lagged dependent variable within the explanatory variables suggests that not only shocks on the economic variables (Y, M, G, f'), but also institutional factors associated with the way governments affect the maturity structure of the internal public debt cause internal financing to deviate from its historical trend.

D. Estimation and tests.

As seen in Table 5, the processes for all the variables in the estimating equation (9) are stationary.[1]

TABLE 5

UNIT ROOT TESTS

Variables in the model for the shock-absorber role of the internal public debt.

	Fu_t	Fu_{t-1}	Yu_t	Gu_t	Mu_t	$f'u_t$
Lagged level	-0.18	-0.21	-0.14	-0.41	-2.8	-0.49
	(-3.3)	(-3.8)	(-2.7)	(-3.9)	(-3.3)	(-4.6)
Lags of differenced variable	1	2	1	0	1	0
$s_2(4)$	0.98	0.42	1.26	0.99	2.10	2.43
$h_1(4)$	0.63	0.33	0.81	0.60	0.38	1.80

Notes

1. The critical values for the Dickey-Fuller test (60 observations) are as follows: -1.61, -1.95 and -2.62, at the 10%, 5%, and 1% significance level, respectively.

2. $s_2(n)$ is the Lagrange Multiplier test for autocorrelation in its F-form, F(n, T-n-k) where n are the number of lags considered by the test, T the number of observations, and k the number of parameters. Relevant critical value for the above regressions at the 5% significance level:2.54.

3. $h_1(n)$ is the ARCH test in its F-form, F(n, T-2n-k), where nomenclature is as above. Relevant critical value for the above regressions at the 5% significance level:2.56.

The results in Table 5 allow us to apply classical OLS as method of econometric estimation. Table 6 displays the estimates of equation (9) for different sample periods.

TABLE 6

INTERNAL PUBLIC DEBT

Estimated Cycles

	(1) 1925-85	(2) 1925-55	(3) 1956-85	(4) 1925-62	(5) 1963-85
Regressors					
Fu_{t-1}	0.678	0.728	0.565	0.771	0.434
	(10.53)	(8.90)	(4.82)	(7.97)	(4.30)
Yu_t	-2.442	-0.384	-4.155	-1.278	-5.485
	(-3.36)	(-0.46)	(-3.71)	(-1.36)	(-5.79)
Gu_t	0.386	-0.057	0.942	0.347	0.860
	(2.25)	(-0.26)	(2.95)	(1.30)	(3.25)
Mu_t	-0.308	-0.308	-0.169	-0.326	-0.325
	(-2.72)	(-3.02)	(-0.54)	(-2.54)	(-1.19)
$f'u_t$	-0.381	-0.307	-0.558	-0.231	-0.695
	(-2.33)	(-1.78)	(-1.97)	(-1.07)	(3.41)
Tests					
R^2	0.87	0.92	0.88	0.84	0.96
$s_1(3)$	4.54	1.37	6.26	0.67	1.36
$s_2(3)$	1.42	0.33	1.93	0.18	0.28
$h_1(3)$	0.03	0.84	0.73	0.26	0.31
$h_2(3)$	1.50	1.03	1.72	0.66	n.a.
N(2)	3.29	0.52	0.29	6.87*	0.03
Reset (3)	1.07	0.92	0.22	0.61	1.47

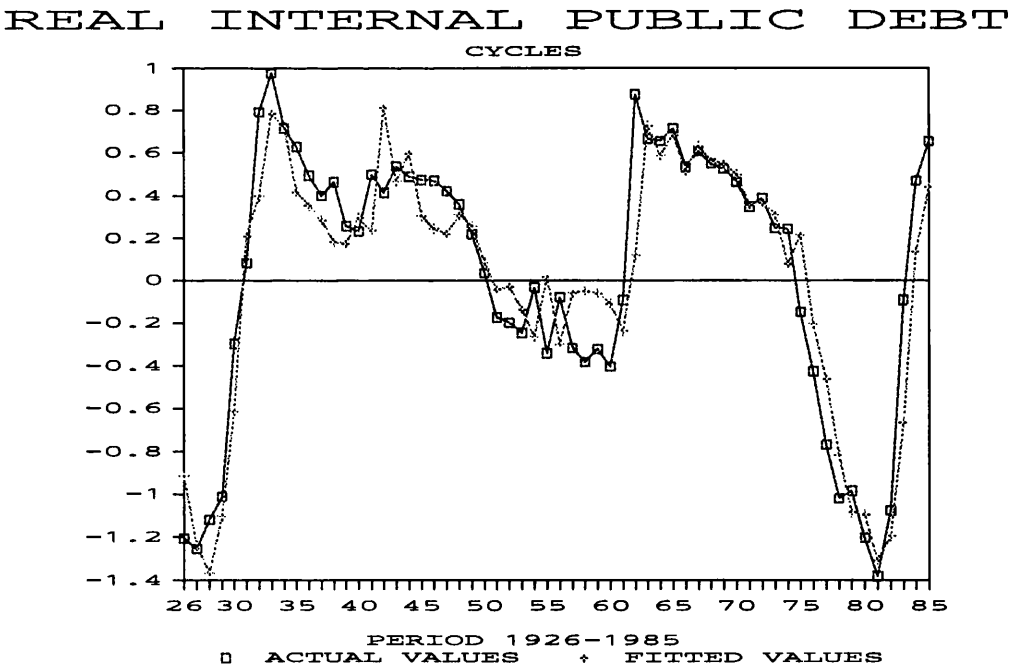
Notes.
1. Asymptotic t-statistics are shown in parentheses.
2. Tests statistics denoted by (*) reject the null hypothesis at the 5% significance level.
3. n.a.: not applicable.

Column 1 shows the OLS estimates for the full sample 1925-1985. The estimated shocks associated with output, government spending, imports and external financing exhibit the expected signs and are all significant at the 5% level. First of all, the estimated coefficient of the Yu_t variable (-2.44, t-statistics: -3.4) reveals a strong countercyclical reaction of internal public debt to downswings in real GDP. Literally, a negative deviation of the growth rate of output of 1% relative to its historical trend, causes internal financing to grow at 2.4% above its normal rate. As for shocks on government expenditures, the estimated coefficient indicates that a deviation of the growth rate of the internal public debt of 0.4% above its trend corresponds to an increase of the growth rate of government expenditures of 1% above their trend. Regarding negative shocks on imports and external financing, the estimates reveal a similar counteractive response of internal debt. Finally, the estimated coefficient for the lagged dependent variable is highly significant and shows a marked sluggish adjustment of the internal debt.

What can we say about theory consistency? Two issues are to be considered: the economic interpretation and the statistical characteristics of the estimates in Table 6, column (1). As for the economic interpretation we have already observed that the estimated parameters of the hypothesized explanatory variables are all significant, and the signs are as expected. The estimated value for a_1 indicates that the typical countercyclical reaction of internal debt notably exceeds the unitary coefficient which will correspond to automatic stabilization; by referring to our paradigms, this result suggests the presence of discretionary countercyclical measures beyond the operation of automatic stabilizers. Additionally, the coefficients' sizes imply that internal debt is used to finance only a portion of deficits arising due to either negative cycles of imports or huge temporary government expenses, but we are unable to conclude about the possibility of tax smoothing in these cases. Moreover, it is shown how the estimated value for a_4 supports the conjectured countercyclical and partial reaction of internal debt to shocks on external financing. Further comments regarding new estimates for different subsamples are made below.

As for the statistical characteristics of the estimation, Table 6 also offers various criteria for evaluating our econometric model. First of all, the goodness-of-fit suggested by Graph 18 is confirmed by a high R^2. Additionally, two sets of diagnostic tests insinuate the absence of a systematic lack-of-fit. These tests check for the presence of serial correlation and heteroskedasticity. $s_1(n)$ is the Lagrange Multiplier test for autocorrelation in the residuals of lags up to (n), and is asymptotically distributed as a chi-squared distribution under the null of no autocorrelation. $s_2(n)$ is the Lagrange Multiplier test for autocorrelation in its F-version.[2] $h_1(n)$ is the Autoregressive Conditional Heteroskedasticity test ARCH presented here in its F form, and $h_2(n)$ is the test for heteroskedasticity due to squares of the regressors also in its F-form.[3] The results under column (1) show that the first estimated regression passes these tests.

GRAPH 18

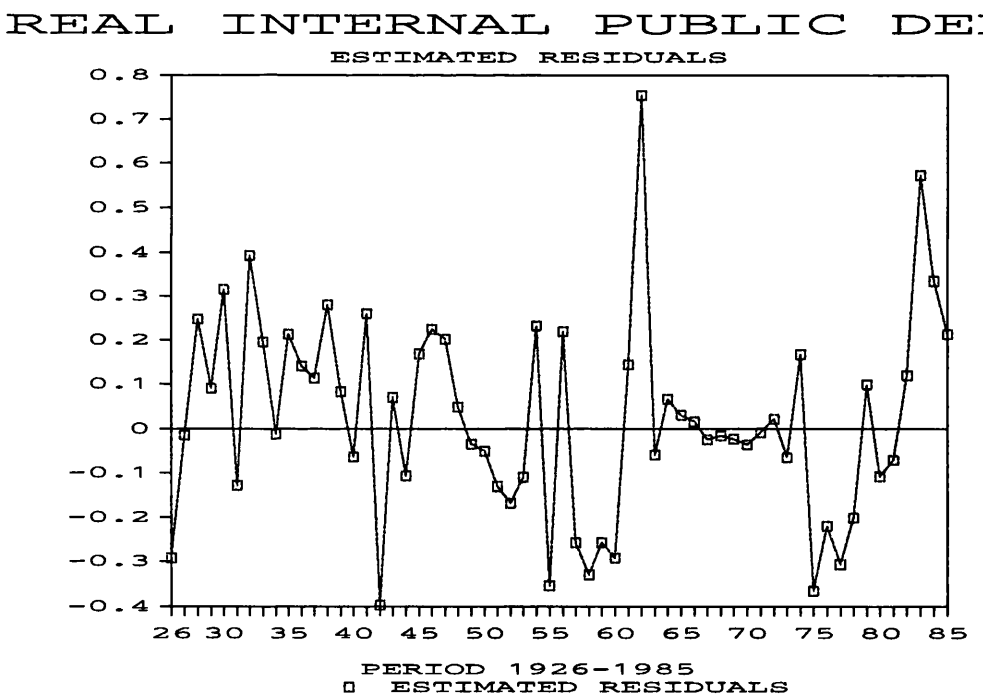


NOTES
Fitted values: annual estimates of the deviations from trend of the real internal public debt according to the model in equation (9).
SOURCES
Informe del Contralor

Two final tests for evaluating the adequacy of our regression model are offered at the bottom of Table 6. The R(n) is the Reset test which evaluates possible departures from the linearity assumption, and N(n) is a test of the conformity of the residuals with the normal distribution.[4] Once more the first estimated equation passes these tests.

Graph 19 shows the time path of the residuals resulting from the OLS estimation of equation (9).

GRAPH 19



NOTES
Series of estimated residuals obtained from the OLS regression of the model in equation (9).
SOURCES
Informe del Contralor

The graph suggests that the series is not afflicted by serial correlation or heteroskedasticity. A few extreme values are observed, particularly in 1942 and 1983, but

above all in 1962. So far our tests have not been affected by these unusually large values; such is the case of the normality test which by construction is sensitive to outliers. Finally, as expected from the stationarity of the regressand and regressors the estimated residuals are also stationary.[5]

What can we add about parameter constancy? The point is important not only because the lack of regression parameter constancy is a cause of misspecification of estimating equations, but because it has to be shown that although the economic system experienced changes over the period of study, the model is characterized by parameters which remained fairly stable. In order to check for parameter constancy we reestimate the model by using recursive least squares (RLS). This estimation provides us with new diagnostic tools, namely, the RLS coefficients, the one-step residuals, and various Chow statistics, to which results we now turn.

The RLS coefficients allow us to follow the time paths of the parameters of the model over the period of study. The coefficients for $f'u_t$ and Fu_{t-1} are very stable over the sample period. The coefficient for Gu_t remains relatively stable over the period. Finally, the coefficients on Mu_t and Yu_t are less stable; in particular, the estimated coefficient for Yu_t changes as the sample increases, first from positive to negative values (during the late 1940s), and then progressively declines with the final estimate located outside the initial confidence interval.

Additional information is offered by the one-step residuals.[6] Two values of one-step residuals, one in 1962, and another one in 1983, lie outside the error bands (+/- $2\hat{\sigma}$ around zero). These values suggest the presence of exceptionally large deviations from trend of the dependent variable, or perhaps alterations in the structural parameters of the model. Complementary information is provided by the Chow statistics. The one-step Chow test shows that the null of no structural break is rejected at the 5% significance level in 1942 and 1983, but specially in 1962.[7]

Given the results offered by recursive estimation we apply a test for structural break in 1962, to check whether the parameters are constant over the subsamples 1925-1962 and 1963-1985. The corresponding Chow's statistic yields F(5,51) = 2.19 which is less than the critical value (2.40) at the 5% significant level. An alternative way consists in refitting equation (9) to the sample 1925-1962, and predicting over the period 1963-1985. With the only exception of 1983 the forecasts are not statistically significant. The Chow test for parameter constancy yields F(23,33) = 0.74 which is less than the critical value (1.84) at the 5% significance level.

To sum up, the recursive estimation of (9) shows that not all the parameters are equally stable, and in particular the estimated parameter for Yu_t appears to be less stable than the rest. Further results suggest the presence of outlier values for Fu_t or changes in the structural parameters of the model. Since these results coincide in reporting 1962 as a possible break point, we applied Chow tests for structural break over the samples 1925-1962 and 1963-1985. The tests reported parameter constancy over the period of study.

At this point the reader could express some reservations about the exogeneity of one or more regressors. For instance, if Yu_t was affected by feedback from Fu_t, in a broader model Yu_t would be endogenous and possibly correlated with e_t. In general, the presence of endogenous regressors which correlate with the estimating equation disturbance terms makes the OLS estimation to yield biased and inconsistent estimates of the structural parameters. It is then necessary to test for independence of regressors and disturbances.[8] By using Hausman's specification test it is possible to check whether the null hypothesis of exogeneity of Yu_t, and more generally, the null hypothesis of exogeneity of Yu_t, Mu_t, Gu_t, and $f'u_t$ cannot be rejected.[9] In the first case the test yields $Chi^2(1)=1.68$ which is less than the 5% critical value (3.84) for a single variable under test; and in the second case, the test yields $Chi^2(4)=2.04$ which is less than the 5% critical value (9.49) for four

variables under test. In conclusion, our regressors in equation (9) pass the exogeneity test and therefore the OLS procedure used to estimate (9) appears to be legitimate.

New estimates for different subsamples are presented in columns (2) to (5). Our "stylized facts" in Part II suggest that the series evolve in a different way during the first and second halves of the whole sample. For instance, government expenditures grow at an average rate lower than their normal during the 1930s and 1940s, and at an average rate higher than the trend since the mid-1960s to the mid-1980s. The contrast between the two halves is revealed by the estimates in columns (2) and (3): shocks on output and government expenditures are not significantly different from zero during the first half but clearly significant during the second half; additionally, the estimate of the government spending shock for the second half is close to 1.0 which means that temporary surges in government spending are financed by changes in internal financing.

Another important contrast is that while shocks on imports during the first half exhibit an estimate similar in magnitude and significance to the estimates for the whole period in regression (1), the estimate for the second half is lower and insignificant. Further, the magnitude of the estimate of the shocks on external financing for the subsample 1956-85 clearly exceeds the magnitudes for the first half and for the whole period. Finally, columns (4) and (5) show the estimates for the periods 1925-1962 and 1963-1985. This periodization is suggested by Graph 18 which shows a long period of internal debt growth rates above trend (1960s and first half of the 1970s) after the continuously declining growth rates of the late 1940s and the 1950s. The estimates are quite similar to those obtained in columns (2) and (3).[10]

Three central ideas emerge from the analysis of the subsamples. First, the relative importance of innovations on Y, G, M and f' is unequally distributed over time. Second, shocks on the external sector -imports and external financing- are always important to explain cycles in internal public debt. Third, the contribution of shocks on output and

government expenditures to the explanation of internal debt cycles is concentrated in the second half of the sample. The analysis brings out that in this period the estimated parameter of Gu_t is practically equal to 1.0.

Finally, a common characteristic of all the regressions is the relatively high and strong significance of the estimate of the lagged value of the dependent variable. It reveals that an important feature in this historical analysis is the tendency to a slow adjustment of internal debt. Putting it other way, not only cycles in economic variables but the pace at which the government amortizes the outstanding internal debt explain the cycles in internal financing. Various historical episodes endorse this statistical finding. For example, in Part II.C.3., it was mentioned how the extraordinary increase of internal public debt of the early 1930s, required four decades to be fully amortized.

Having interpreted our econometric estimations, we now turn to describe the evolution of the cycles of internal public debt (Graph 18) in the light of the cycles of the explanatory variables and the estimates reported in Table 6.

E. The behaviour of the cycles of the internal public debt, 1925-1985.

Graph 18 and Table 6 (Columns (2) to (5)) suggest that we can distinguish two main periods in the predicted time path of the cycles of internal public debt. These periods largely correspond to the first and second halves of the series.

1. Mid-1920s to mid-1950s

Three phases can be observed during the first period: the second half of the 1920s which mostly coincides with the boom which precedes the great depression (1929-33); from the depression years to WWII; and the first post-War decade.

The first phase was dominated by a deep negative cycle of internal debt around its trend. The reasons for this negative cycle are to be found in the behaviour of output, imports, and external financing, all of which experienced growth rates notably above their trends. 1928 is a crucial date in the evolution of the series: output and imports reach their maximum positive deviations from trend ever, and external financing arrives at a point which could only be repeated at the other extreme of the series in 1981. 1928 is also the year in which government expenditures reach their maximum growth rate above normal for the whole series (1925-1985); ceteris paribus, this behaviour of government expenditure contradicts our expectation of a positive relationship between Fu_t and Gu_t.

After 1928 the deluge: the access to external credit is virtually closed, imports fall sharply after 1929 and output slows down to achieve just its historical rate in 1931. As a result of these events, the deep negative cycle of internal public debt is transformed into a large positive cycle since 1931. This cycle reaches its maximum in 1933 and also high points in 1942-1945. What can we say about the behaviour of the individual explanatory variables which resulted in the positive cycle of the internal public debt? Note first the evolution of output. Along the 1930s output grows above its historical rate, with an average deviation from trend of 2%, lower than the average of 10% which predominated in the second half of the 1920s. In contrast, during the 1940s output grows below the historical rate, reaching during the War years the mayor negative deviations from trend for the whole period 1925-1985.

Contrasting with the evolution of output, imports grow at less than their trend since 1930 and through the end of World War II. Two subperiods can be distinguished. The first starts with the great depression when the imports-growth rate collapsed from being on average 60% above trend in 1927-28 to being on average 65% below trend in 1931-33. The end of this first subperiod coincides with a gradual recovery of imports which in the years 1937-39 regained the normal growth rate. The second downfall of imports exactly

corresponds with the World War II years. Once more, the average negative deviation from trend is 60% in the interval 1942-44.

The behaviour of external financing between 1930 and 1942 adds new elements to the previous description. The boom of the late 1920s is abruptly replaced by the deepest downturn during the whole period, between 1930 and 1934; at its bottom in 1931 the growth rate of external financing represents a deviation of 57% from the normal growth rate. The magnitude of the collapse can be illustrated by the fact that the lowest growth rate is achieved only two years after the second highest growth rate of the series is reached; at this last point the positive deviation from normal is 49%. Towards the end of the decade external financing grows close to, but still below its trend. A different experience is to come about during the last three years of the War, however. The collapse of imports due to the hostilities, and unexpected capital inflows result in accumulating international reserves, and growth rates of external financing above trend; at its summit in 1945, these rates represent a positive deviation of 28% over the historical growth rate.

As for government expenditures, their behaviour appears to be dominated by policies of fiscal retrenchment since the late 1920s through the 1940s. The consequence of these policies is a long negative cycle of government expenditures around its trend, of which the following figures are illustrative. The average negative deviation from the normal growth rate in the years 1935-1938 is 19%. Thereafter, this restrictive behaviour reaches an average of 32% in 1943-1946, with a trough of 56% in 1943. Some isolated points reveal expansionary increases of government expenditures above normal, but there is only one outstanding experience, in 1933, when the "actual" growth exceeds the trend by 23%.[11]

Finally, some institutional facts appear to be influencing the positive cycles of internal public debt. These facts are summarized by the behaviour of Fu_{t-1}. Two important government decisions are worth noting here. First, the suspension of amortizations on the internal debt bonds between 1933 and 1940; and second, the conversion of medium-term

credits granted to the government during the fiscal crisis of the early 1930s into long-term internal debt (An important credit received by the government from the central bank in 1931 was converted in 1942 into a debt which would be gradually amortized along the next 30 years). These facts contribute to a very slow adjustment of internal debt.

In conclusion, the individual behaviour of the explanatory variables during the second phase can be summarized as follows: imports consistently grow below their trend, thus clearly contributing to the positive cycle of the internal public debt. A less consistent behaviour is observed in the evolution of external financing and output. An apparent contrast is offered by the evolution of government expenditures which grow below their normal rate through the whole phase. Finally, the lagged value of the deviations from trend of the internal public debt seems to contribute to the permanence of the positive cycle of the internal public debt under discussion.

The third phase covers the first decade after World War II. During these years the growth rates (actual and predicted) of internal public debt continuously decline, reaching the historical rate in 1950, and then, lower rates than normal during the first half of the 1950s. Regarding the behaviour of individual explanatory variables, it appears that while output and external financing grow below their trends, and government expenditures grow above their trend (altogether suggesting that the growth rates of the internal debt could be increasing), imports grow well above their trend. The imports boom triggered by the normalization of international trade at the end of the conflict, reaches its height in the period 1953-56 when the average deviation of the growth rate of imports above trend equals 58%. As for government expenditures, it has to be noted that for the first time in twenty years their growth rates exceed the historical rate. In fact, the fiscal bonanza derived from the imports upsurge facilitates the increased government spending and allows internal debt to grow at a slower rate compared with the normal.

2. Mid-1950s to mid-1980s

Two phases stand out during these years. A new positive cycle of the internal public debt since the early 1960s to the mid-1970s, and the period 1975-85 which largely duplicates the experience with internal public debt in the late 1920s and early 1930s.
The first phase is characterized by the following features: First, a negative cycle of imports which coincides with a negative cycle of world coffee prices. Second, a positive cycle of government spending particularly between 1967 and 1975, which reaches its peak in 1972 -the second highest point in the whole series of government spending.

Third, an evolution of output which can be divided into two different subperiods. The first covers the years 1960-68 when output grows at a steady rate of about 3% less than the trend. In the second period (1968-75) output growth rates evolve consistently above trend, reaching levels not achieved before since the economic boom of the 1920s. Fourth, the external financing exhibits a series of no negligible ups and downs around the trend, which gives an impression of the financial instability of the period. On average, the external financing grows below trend. As a whole, with the only exception of output during 1968-75, the behaviour of the explanatory variables individually considered is consistent with the positive cycle of the internal public debt.

Why does the growth rate of internal public debt "jump" in 1962 as shown in Graph 18? 1962 was already an important reference in our previous discussion of parameter constancy. The outstanding change in the internal debt is produced by a combination of economic and institutional facts at the center of which there are substantial losses made by the central bank in the foreign exchange market which are transformed into internal debt. There are also other institutional facts which contribute to the "jump" in 1962 and which reappear later during the 1960s and early 1970s; such is the case of substitutions of internal debt for part of the external debt. It is as a result of these facts and the commented

evolution of the economic explanatory variables that the wave of increasing internal debt of the early 1960s prolonges its existence until the mid-1970s.

The second phase, covers the last decade of our period of study. To an important extent the 1975-85 period resembles the boom-and-bust cycles of the late twenties and early thirties. Two distinct features of the boom are the coffee bonanza of the years 1976-80, and the access to external financing (1979-82) on a scale not seen in the previous fifty years. In this context, a negative cycle of real internal public debt emerges and its deepest point in 1981 corresponds to the actual maximum negative deviation from trend in the whole period. This is only an ephemeral experience, however. The end of the temporary boom of the external sector, and particularly the sudden and abrupt collapse of external financing in 1982 brings about a new cycle of accumulating internal debt.

In the light of our explanatory variables how can we explain the negative cycle of internal public debt during 1975-81? First, we note that the positive cycle of government spending which started in the mid-1960s comes to an end after fiscal reforms implemented in 1975. Second, output and imports grow at rates superior to their normal ones: the average positive deviation of output from trend in the years 1978-80 is just somewhat inferior to that achieved in the boom of the late 1920s; as for imports, the new positive cycle though important and prolonged for six years, does not achieve the magnitudes of the twenties or the sixties. The scene is completed with the behaviour of external financing whose positive cycle echoes the experience of the late 1920s; its average positive deviation from trend in the years 1979-82 equals 34% compared with 40% in 1926-28. The sharp increase in foreign financing since 1979 reaches its summit in 1981, which is at the same time the maximum positive deviation from trend of the whole series. Altogether, the large positive cycles of external financing and output contribute to explain the deep negative cycle of internal public debt during 1975-1981. This contribution is supplemented by a positive cycle of imports and by a negative cycle of government expenditures, although in the last case only until 1978.

If the interval 1975-81 parallels some episodes of the 1920s, the crisis which explodes in 1982 reproduces experiences lived through in the early 1930s and leads to a new cycle of internal public debt growing above the historical trend. The economy already affected by the recessionary effects of the end of the coffee bonanza faces the breakdown of foreign lending in 1982. This crisis, however, is not as deep, prolonged and dramatic as its precedent of the 1930s which included an "official debt default". Following the downturn of external lending, a new negative cycle of foreign financing emerges: during 1983-85 its average negative deviation from trend reached 18% compared with the average positive deviation of 34% achieved during the booming period 1979-82. The lesser magnitude of the falldown of external financing in 1983-85 compared with that of 1930-32 is illustrated by the fact that the average negative deviation from trend in the latter period was 44%, far greater than the 18% of the former period.

Also negative cycles of output (since 1982) and imports (since 1983) appear after the end of the coffee bonanza and the drying up of foreign credit. Altogether, the individual behaviour of $f'u_t$, Yu_t and Mu_t contribute to explain the new positive cycle of internal public debt. Regarding the behaviour of Gu_t, the experience of the late 1920s and early 1930s is repeated here. A positive cycle of government expenditures during 1979-84 coincides with the negative cycle of internal public debt during most of that period. In the late 1920s the positive cycle of government expenditures was largely financed by a positive cycle of tax revenues derived from booming output and imports. In the early 1980s the positive wave of government expenditures was mostly financed by financial proceeds obtained by the government from the investment and management of the unprecedented stock of international reserves left by the coffee bonanza of 1976-80.

As revealed by our descriptions, the behaviour of Yu_t, $f'u_t$ and Gu_t is more consistent with the expected signs during the second half of the sample than during the first one. By taking these accounts and our estimates in Table 6, columns (3) and (5), as a whole, we observe

how the estimated parameters of the explanatory variables just mentioned appear to be of greater size and more significant than during the first half of the series. Finally, it can be seen how Mu_t which stood out for its consistency with the expected signs and significance during the first half of the sample, shows no statistical significance during the second half.

F. Conclusions

In this section we formalized our historically-based hypothesis of the shock-absorber role of internal public debt. By starting from the government budget constraint we derived a model according to which internal public debt deviates from its historical growth rate due to shocks on a set of hypothesized explanatory variables. In the absence of these shocks, the internal public debt grows at its historical rate.

According to the empirical results, shocks on the explanatory variables are significant and exhibit the expected signs. These results are qualified when further estimations are performed over subsamples, with some variables being more significant during the first half of the whole period of study, and other variables being more significant during the second half. Overall, all the estimations satisfy standard criteria for evaluation of econometric models.

Regarding the theoretical paradigms recalled at the beginning of the section, the estimation applied to the entire period of study suggests that the Colombian experience is better represented by paradigms which recognize the role of discretionary countercyclical policies over the business cycle. This finding is associated not only with the significant estimated parameter for the output variable which turned out to be far greater than unity, but also with the significant estimated parameter for the external financing variable. Unfortunately, the specification of the model did not allow us to derive more explicit conclusions about the relevance of individual paradigms for the interpretation of the Colombian case.

To sum up, our statistical results offer an encouraging support to the hypothesis that internal public debt has performed a shock absorber role in Colombia. However, as expresed in the general introduction to this part of our study, the results achieved in this section represent not the end but rather half way of our enquiry. Our new endeavour is to ask whether when resorting to increase internal public debt governments exclusively rely on issuing additional bonds or prefer to combine both changes in public debt and changes in taxation. This is the subject of the next section.

SECTION I

NOTES

1. The intercept term did not enter significantly into any of the test regressions, so it was ommited from them to preserve the power of the tests. The definitions of the test for residual serial correlation [$s_2(n)$] and the ARCH test for heteroskedasticity [$h_1(n)$] are discussed below regarding the estimations shown in Table 6. The fact that the ARCH tests are not significant means that the power of the unit root tests is not affected by serial correlation in the variance.

2. The LM test (Box and Pierce [1970] and Godfrey [1978]) is computed by regressing the OLS residuals $e\hat{}_t$ on all the regressors of the original model x_t and the lagged residuals for lags up to n ($e\hat{}_{t-1}$, ...,$e\hat{}_{t-n}$). The test statistic $s_1(n)$ is T (observations) times the R^2 for this regression. Kiviet (1986) finds that this version of the test has poor small sample properties and recommends the Lagrange Multiplier type F-test which seems to be invariant to sample size and redundant regressors.

3. Engle (1982) proposes a test for heteroskedasticity (the ARCH test) in which the $e\hat{}^2_t$ are regressed on their lagged values. The test checks for the significance of the estimated parameters. The $h_2(n)$ test proposed by White (1980) is computed by regressing the $e\hat{}^2_t$ on the regressors of the original model x_t and their corresponding squares x^2_t. The null of homoscedasticity is tested against the alternative that the variance of the e_t is a function of x_t and x^2_t. The test is also a general test for model specification. If the test is not statistically significant it implies that not only the variance specification of the model is correct, but also that the linear specification is correct (White [1980] p.823).

4. The Ramsey (1969) Reset test (Regression specification test) is a test for the omitted variables problem where the main assumption is that powers of the predicted value series ($Y\hat{}_t$) provide a good approximation to omitted factors. The N(n) normality test is a Lagrange-Multiplier test proposed by Jarque and Bera (1980). It is a skewness-kurtosis test distributed as a chi-square with n degrees of freedom under the null hypothesis of normality in the residuals. The test reported in Table 6 is for n=2, which is the case offered by PC-GIVE.

5. The Dickey-Fuller test for the lagged level of the dependent variable is -4.51 which is significant at the 1% level (Critical value:-2.62). The regression required two lags of the differenced dependent variable to avoid serial correlation in the residuals. Neither a constant or a time trend proved to be significant.

6. The one-step residuals are obtained as follows: at each recursion an OLS residual for the last period in the sample is obtained and plotted against time. The plot includes error bands of $+/-2\sigma\hat{}t$ around zero (Charemza and Deadman, 1992). In the graphical representation of our case (not shown) it is visually clear that the standard error of the regression changes very little over the whole period.

7. The one-step scaled Chow test is obtained by dividing the Chow value by an x% critical value taken from the F-statistic tables. Under the null hypothesis, the scaled Chow test should be less than one. In our case, the test is 4.2 for 1962 and 2.2 for 1983.

8. Exogenous variables are those which are determined "from the outside" (Theil, 1981). According to Sargan (1975), it is a "pious fraud" to perform regressions under the untested assumption that stochastic regressors are independent of the disturbances.

9. The Hausman specification method (Godfrey, 1988) to check for simultaneity bias essentially tests whether IV estimates are significantly different from OLS estimates. The "suspicious" regressors are regressed on a set of predetermined variables, and the predicted values are included in the original estimating equation. The test is distributed as a Chi-square with r degrees of freedom, where r is the number of independent parameter restrictions being tested.

10. The regression under column (4) does not pass the N(2) normality test. We explain this result as caused by the presence of an "outlier" in 1962, the last year of the series. It has been documented that the test is sensitive to unusually large deviations (Spanos, 1986).

11. The increase of government expenditures during 1933 was associated with recovery policies implemented after the Great Depression, and the financing of a war with a neighbouring country, Perú.

SECTION II

A buffer-stock model of internal public debt

Introduction

In Section I we modelled and tested the hypothesis of the shock absorber role of internal public debt in Colombia. In this section we pursue our enquiry still further to check whether governments exclusively resort to internal public debt when facing unanticipated changes in the sources of tax revenues (output and imports), in government expenditures, and in external financing. The simple question is to what extent governments introduce changes in taxation to confront those unanticipated changes.

In this section we provide a rationale which attempts to offer a formal answer to that question. The importance given by authorities to unchanged tax rates is evaluated in terms of the importance attached to the achievement of an internal debt target. The estimating equation is specified in such a way that one of the parameters can convey information about how commited governments are to invariant tax rates over the business cycle.

The technical apparatus is largely based on a multiperiod costs of adjustment model, which has been widely applied in different areas of economic research. To mention some examples, Kenan (1979) discusses the multiperiod generalization of first-order partial adjustment models and its application to employment subjects; Hall, Henry and Wren Lewis (1986) apply the model to the case of manufacturing stocks; and Cuthbertson (1988), Cuthbertson and Taylor (1987) and Muscatelli (1988, 1989) use the model in discussions about the buffer-stock role of money. In this section we apply the framework

in the area of public finance, and in particular test the model on the internal public debt for Colombia during the period 1925-1985.

Our guiding theoretical reference is the literature on "financial buffers" as exposed by Laidler (1984, 1988) and Goodhart (1984), and critically reviewed by Bain and McGregor (1985). Essentially, the literature recognizes that financial buffers smooth the response of the financial system to disturbances, so that equilibrium can be restored over time. In our case the financial buffer is a liability, the internal public debt, with the function of smoothing the treasury's response to disturbances so that budget balance can be achieved over the business cycle.

The remainder of the section is divided into three subsections. In subsection A we outline the model and show how it can be applied to the analysis of internal public debt. In subsection B we introduce alternative methods of econometric estimation of the model and discuss the corresponding results. Finally, in Subsection C we summarize the empirical results and highlight some links between this econometric section and other sections of this work.

A. Setup of the model

Consider the following aggregate expression for the current internal financial resources of the government, R_t,

$$R_t = T_t + dF_t \qquad (1)$$

where T_t represents current annual income revenues, and dF_t stands for annual changes in internal financing. dF_t is the difference between the end-of-year stocks of internal public debt, F_t. All these concepts are given in real terms. There is an important precision to be made about dF_t. This is an actual value which may be described as the sum of two components: a planned component and an unplanned component, as follows

$$dF_t = dF^p_t + dF^u_t \qquad (2)$$

How governments choose the planned component is a central aim of this section. The unplanned term in (2) reflects unsystematic annual deviations from the planned changes in F_t. The determination of the planned component may be seen as a target-seeking decision problem, namely, governments face the problem of deciding on dF^p_t in order to attain targets dF_t^*.

The following characteristics of the model are crucial for its further development and understanding: First, governments recognize the shock-absorber role of internal public debt. While public debt is seen as a buffer stock, taxes are regarded as the non-buffer component of the government financial resources. Due to a great extent to institutional factors, governments find less costly to change the stock of internal public debt rather than introducing changes in taxation. As a result of the different roles of debt and taxes, adjustments in taxation are penalized. Second, governments adopt internal debt targets. Finally, governments seek to minimize the costs of deviating from the debt targets, as well as the costs associated with changes in taxation.

Before going on it is convenient to express (1) and (2) in terms of the relative size of the economy,

$$R_t/Y_t = T_t/Y_t + dF_t/Y_t \qquad (1')$$

$$dF_t/Y_t = dF^p_t/Y_t + dF^u_t/Y_t \qquad (2')$$

where Y_t is the annual value of real GDP.

Formally, the problem of the government can be stated as the minimization of a multiperiod quadratic loss function, which in the infinite time horizon can be written as

$$\text{Min } C = E_{t-1} \sum_{i=0}^{\infty} D^i \{a_0 [dF_{t+i}/Y_{t+i} - (dF_{t+i}/Y_{t+i})^*]^2 + a_1 [T_{t+i}/Y_{t+i} - T_{t+i-1}/Y_{t+i-1}]^2\} \qquad (3)$$

where E_{t-1} is the expectations operator. The process of government's decision-making is posed as based on information available at period t-1. D^i is the governments' discount factor which in turn can be expressed as $D^i = 1/(1+s)^i$ where (s) is the "subjective" discount rate of the government. The target is given by $(dF_{t+i}/Y_{t+i})^*$. The first bracket shows the difference between actual changes in debt and the target (both as shares of GDP). The parameter a_0 reflects the relative weight given by governments to the fulfilment of the debt target. Note that for the moment it is assumed that $dF^u_t/Y_t = 0$.

The second bracket exhibits the difference between the current average tax rate (for i=0) and the previous period average tax rate. As seen above, taxes are the non-buffer component of government resources, and consequently governments want to minimize periodic changes in taxation. The relative importance given by governments to this minimization is expressed by the parameter a_1. A high value of a_1, relative to the size of a_0, reveals that governments pursue a stabilized average tax rate over time.

The solution of the optimization problem under discussion is characterized by the certainty equivalence property. This property is a common feature which emerges when solving linear quadratic problems. The solution is equivalent to that which would obtain if governments knew all the future values of dFP_{t+i}/Y_{t+i}. This point will be explicit below in the derivation of the behavioural equation for dFP_t/Y_t.

Governments are assumed to choose a sequence $\{dFP_{t+i}/Y_{t+i}\}_{i=0}^{\infty}$ to minimize (3). This sequence must satisfy the first-order necessary conditions obtained by differentiating (3) with respect to dF_{t+i}/Y_{t+i}, for i=0,1,2,... Taking in account the definition given in (1') we get the following system of second-order linear difference equations,

$$E_{t+i-1}\{a_0[dF_{t+i}/Y_{t+i} - (dF_{t+i}/Y_{t+i})^*] - a_1[T_{t+i}/Y_{t+i} - T_{t+i-1}/Y_{t+i-1}] + a_1 D[T_{t+i+1}/Y_{t+i+1} - T_{t+i}/Y_{t+i}]\} = 0$$

where i=0,1,2,...,

which can be rewritten as

$$[a_0+a_1(1+D)]dF_{t+i}/Y_{t+i} - a_1dF_{t+i-1}/Y_{t+i-1} - Da_1dF_{t+i+1}/Y_{t+i+1} =$$
$$a_0[dF_{t+i}/Y_{t+i}]^* + a_1[R_{t+i}/Y_{t+i} - R_{t+i-1}/Y_{t+i-1}] - Da_1[R_{t+i+1}/Y_{t+i+1} - R_{t+i}/Y_{t+i}],$$
$$i=0,1,2,... \qquad (4)$$

The system in (4) is known as the "Euler equations". The corresponding solution requires two boundary conditions: the initial debt-income ratio dF_{t-1}/Y_{t-1}, and a terminal or transversality condition which is a necessary condition for optimality. Sargent (1987, p.200) shows that the transversality condition takes the form:

$$\lim_{T\to\infty} \{D^T[a_0(dF_{t+T}/Y_{t+T})^* + a_1(R_{t+T}/Y_{t+T} - R_{t+T-1}/Y_{t+T-1}) - (a_0+a_1)dF_{t+T}/Y_{t+T} + a_1dF_{t+T-1}/Y_{t+T-1}]\} = 0$$

The solution of (4) is as follows. Defining $a=a_0/a_1$ and using the forward operator L^{-n} $dF_t/Y_t = dF_{t+n}/Y_{t+n}$, (4) becomes

$$[1 - (a+1+D)L/D + L^2/D]dF_{t+i}/Y_{t+i} = - a/D\ (dF_{t+i-1}/Y_{t+i-1})^* - 1/D\ [R_{t+i-1}/Y_{t+i-1} - R_{t+i-2}/Y_{t+i-2}] + [R_{t+i}/Y_{t+i} - R_{t+i-1}/Y_{t+i-1}] \qquad (4')$$

The coefficient on the left-hand side of (4') can be factorized as

$$[1 - (a+1+D)L/D + L^2/D] = (1-q_1L)(1-q_2L) = 1 - (q_1+q_2)L + q_1q_2L^2 \qquad (5)$$

from which it is seen that $q_2 = 1/Dq_1$, and $(1-q_1)(1-q_2) = -a/D$. (This last equation will be recalled later in the interpretation of the estimates of q_1). The roots q_1, q_2 lie on either

side of the unit circle rendering one stable (say $q_1<1$) and one unstable ($q_2>1$) root. Thus, (4') has a unique stationary solution, $0<q_1<1$. Substituting from (5) into (4') gives

$$
\begin{aligned}
(1-q_1L)(1-q_2L)dF_{t+i}/Y_{t+i} = & \\
& [1-q_1][1-(q_1D)^{-1}][dF_{t+i-1}/Y_{t+i-1}]* \\
& - 1/D\,[R_{t+i-1}/Y_{t+i-1} - R_{t+i-2}/Y_{t+i-2}] \\
& + [R_{t+i}/Y_{t+i} - R_{t+i-1}/Y_{t+i-1}] \qquad (6)
\end{aligned}
$$

To satisfy the transversality condition the unstable factor $(1-q_2L)$ must be removed from both sides of (6). Recalling that $q_2>1$, such elimination can be performed by applying the forward expansion of the polinomial $1/1-q_2L$, as explained by Sargent (1987, p. 178 and 203). The final outcome of the solution is the following equation for the planned ratio dF^p_{t+i}/Y_{t+i}, where according to the certainty equivalence property quoted above, future values of dF/Y and R/Y are replaced by their expected values based on information at t-1:

$$
\begin{aligned}
dF^p_t/Y_t = & \; q_1(dF/Y)_{t-1} + \\
& (1-q_1)(1-q_1D)\sum_{i=0}^{\infty}(q_1D)^iE_{t-1}(dF/Y)^*_{t+i} + \\
& 1/D\sum_{i=1}^{\infty}(q_1D)^iE_{t-1}[(R/Y)_{t+i} - (R/Y)_{t+i-1}] - \\
& \sum_{i=1}^{\infty}(q_1D)^iE_{t-1}[(R/Y)_{t+i+1} - (R/Y)_{t+i}] \qquad (7)
\end{aligned}
$$

Equation (7) shows that governments' current decisions about dF^p_t/Y_t depend not only on the historical record (first term on the right-hand side) but also on the expected future values of dF/Y (second term on the right hand side). An additional source of information is the expected future behaviour of government resources as a share of GDP (third and fourth terms on the right- hand side). The model imposes testable restrictions on the parameters in two ways: First, the weight (q_1) which appears affecting the forward-

looking variables, also affects the lagged value of the dependent variable. Second, the weights on the expected variables decline geometrically as time elapses into the future. These aspects are discussed later when estimating the model.

How can we interpret the expectational terms in (7)? The second term in the equation indicates that if governments pursue stochastic targets, the planned ratio dFP_t/Y_t will depend on the variables determining $(dF/Y)^*_{t+i}$.[1] Alternatively, if governments define a fixed ratio [dF/Y]* as a target, the second term becomes a constant value, and the expectational effects are reserved to the last two terms of the equation.

Regarding only the third and fourth terms, the final outcome for dFP_t/Y_t depends on the growth rate of R/Y and on the value of D. Consider some examples. Given a steady growth in R/Y with $0<D<1$, dFP_t/Y_t increases. In the extreme case when D=1, a steady growth in R/Y leaves dFP_t/Y_t unaffected. Similarly, if R/Y is growing at an increasing rate over the planning period, with D=1, dFP_t/Y_t falls. In conclusion, the final effects of the third and fourth terms of equation (7) on dFP_t/Y_t depend on the actual value of the discount rate and the behaviour of the ratio (R/Y) over time.

The adoption of a fixed target for (dF/Y)* leaves us with a new version of equation (7) in which the second term is replaced by the expression

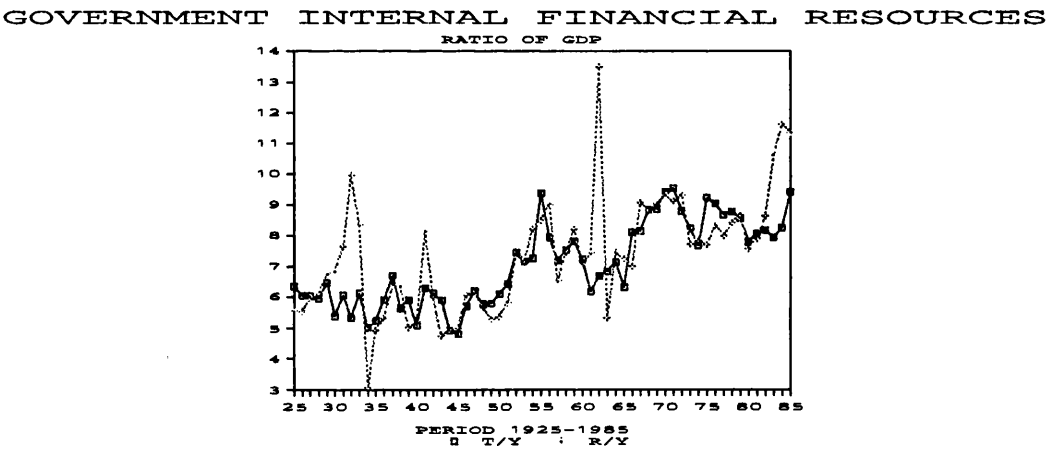
$$[1+q_1D+(q_1D)^2+...+...](dF/Y)^* = [1/1-q_1D](dF/Y)^*$$

given that (dF/Y)* is a constant and $q_1<1$. Considering a finite horizon (i=1,2,...T), and letting $R_t/Y_t = r_t$, we get

$$dFP_t/Y_t = q_1(dF/Y)_{t-1} + (1-q_1)(dF/Y)^* + 1/D \sum_{i=1}^{T} (q_1D)^i E_{t-1}(dr_{t+i}) - \sum_{i=1}^{T} (q_1D)^i E_{t-1}(dr_{t+i+1}) \quad (8)$$

Graph 20 displays the paths of r_t and the average tax rate (T_t/Y_t) over time. A small positive historical growth rate of 1% characterizes r_t during the period of study. As suggested by the graph, the path of r_t is mainly determined by the average tax rate, excepting the temporary jumps of the series in the 1930s, 1940s, 1960s, and early 1980s, which we documented in our "stylized facts" (Part II). Therefore, governments could consider the average tax rate as a proxy of the variable r_t.

GRAPH 20



NOTES
The ratio of government internal financial resources to GDP is given by r = R/Y = T/Y + dF/Y

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A further simplification implies the adoption of finite series for the expectational arguments (say T=2), and a value for D. By choosing a value of D=1, which facilitates matters substantially, (8) becomes[2]

$$dF^p{}_t/Y_t = q_1(dF/Y)_{t-1} + (1-q_1)(dF/Y)^* + q_1 dr^e{}_{t+1} + (q_1{}^2-q_1)dr^e{}_{t+2} - q_1{}^2 dr^e{}_{t+3} \qquad (8')$$

where the superscript (e) indicates the expected values of dr_{t+i} based on the information available at time t-1.

This is the moment to go back to equation (2') which divides the actual value of the ratio dF_t/Y_t into a planned and an unplanned component. The unplanned component can be expressed as follows,

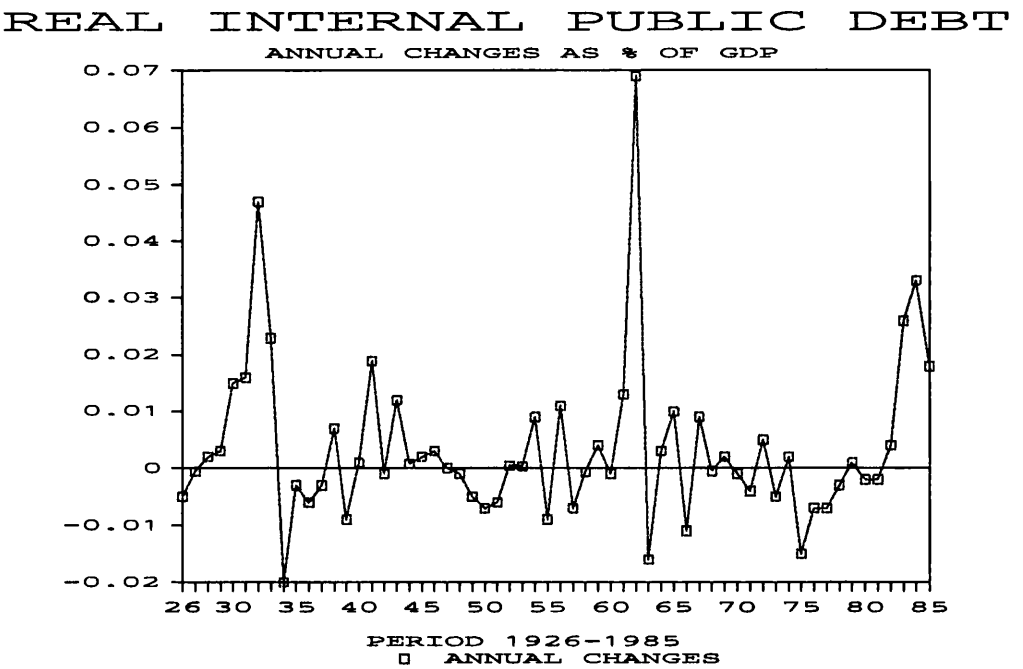
$$dF^u{}_t/Y_t \;=\; b_0(Y-Y^e)_t + b_1(G-G^e)_t + b_2(M-M^e)_t + b_3(f'-f'^e)_t \qquad (9)$$

where the terms in brackets represent current innovations in output, government expenditure, imports and foreign financing respectively. As seen, these variables are the same explanatory variables which appeared in our estimating equation (equation 7) in the previous section.[3]

Equations (8') and (9) are the basic ingredients of an estimating equation for dF_t/Y_t. However, the evolution of the actual series as depicted in Graph 21 suggests that two dummy variables are necessary to account for sharp and temporary increases (1932 and 1962) and decreases (1934, 1963, and 1975). The facts are documented next.

The extreme changes in the dF/Y ratio derive not only from sudden changes in the nominal debt but from marked movements in the inflation rate (Graph 16, Part II). An unprecedented increase in the nominal stock of debt (54%) combined with the lowest point of the price deflation of the early 1930s (-23% of inflation rate) produced the 1932 sharp increase in dF/Y. On the contrary, the one-shot spectacular increase of the inflation rate in 1934 combined with a rather stagnated stock of nominal debt led to the lowest point of dF/Y in the whole series. The inflation rate in 1934 (39%) is the highest one recorded during the period of analysis, and the one-shot nature of that increase is revealed by the fact that the inflation rate was 5% in 1933, and 4% in 1935.

GRAPH 21



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CEPAL (1957)
IMF

The sharpest increase of dF/Y happened in 1962; it resulted from the largest one-year increase in the nominal debt (125%) in the series excluding the 1980s. The extreme positive point achieved in 1962 was followed by a negative one in 1963 due to an abrupt one-year increase in the inflation rate; in fact, in only 1963 the inflation rate was 27% when the average for the five previous years had been 8%, and the average for the next five years did not exceed 11%. Finally, a notable reduction of the nominal debt stock (15%) in 1975 led to a negative value of dF/Y similar to that reached in 1963.

The contexts of these changes were described in our "stylized facts" (Part II). The alternated positive and negative extremes of dF/Y in 1932 and 1934 occurred during the

period of active reflationary policies which followed the Great Depression. While in 1932 the economy was still at the bottom of the recession, by 1934 the whole range of activist policies which involved monetary, fiscal and exchange rate measures had produced a notable inflationary burst. These were temporary episodes followed by years of traditionally conservative financial policies. The events of the early 1960s were associated to the external crisis of the time: the sharp increase of internal public debt in 1962 was principally due to the enlargement of government liabilities aimed to finance central bank losses in the foreign exchange market; and the high inflation rate of 1963 came about after a massive devaluation at the end of 1962 followed by substantial wage increases. Finally, the reduction of the nominal debt stock in 1975 arose from processes of fiscal reform explicitly orientated to cut down government expenditures, increase tax revenues and reduce the size of the public debt.

Back to our formal discussion, the estimating equation can be written as follows

$$\begin{aligned} dF_t/Y_t = {} & q_1(dF/Y)_{t-1} + (1-q_1)(dF/Y)^* + q_1 dr^e_{t+1} + \\ & (q_1^2-q_1)dr^e_{t+2} - q_1^2 dr^e_{t+3} + b_0(Y-Y^e)_t + \\ & b_1(G-G^e)_t + b_2(M-M^e)_t + b_3(f'-f'^e)_t + V_1 + \\ & V_2 + w_t \end{aligned} \qquad (10)$$

where V_1 is the dummy which accounts for the positive jumps in the series, V_2 the dummy which reflects the negative jumps, and w_t is an error term.

Having arrived to the estimating equation, the immediate concern is the discussion of appropriate methods of estimation. Since equation (10) has been derived under the assumption that the internal debt target is deterministically defined, the first task is to explain how the target can be obtained. Subsequently, the econometric alternatives are presented, before proceeding to estimate and test the model in equation (10).

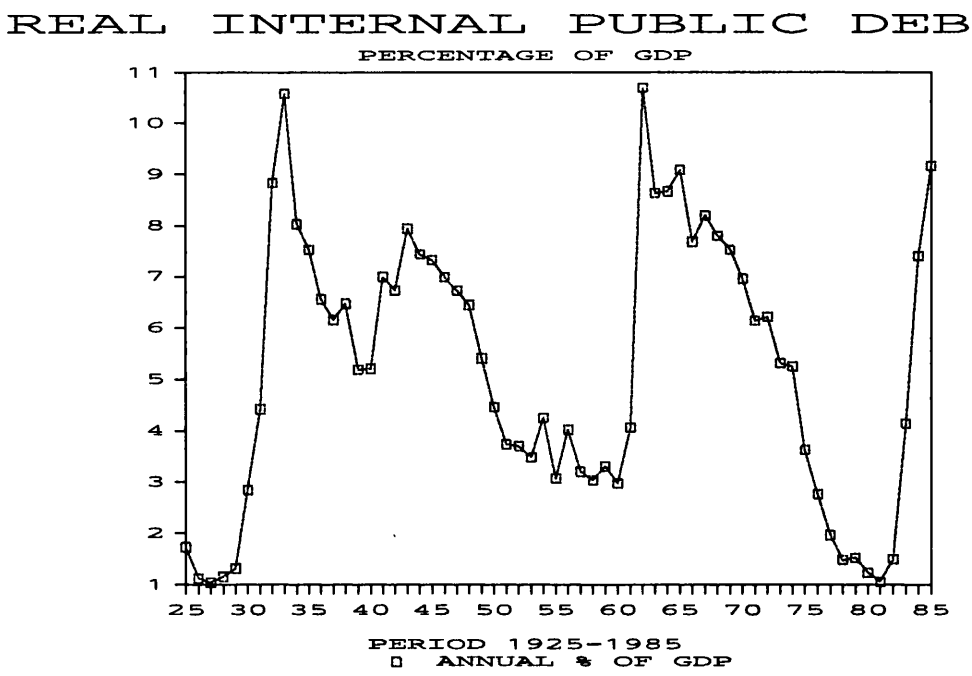
B. Estimation and empirical results.

1. Determination of a fixed target.

To start with we indicate how to determine the fixed value of the target (dF/Y)*. Consider the real internal public debt as a share of GDP, given by $f_t=F_t/Y_t$. Its historical evolution is shown in Graph 22. As expected, according to our previous descriptions, the series "peaks" during the external crises periods of the early 1930s, 1940s, 1960s, and 1980s, when the real internal debt represented about one tenth of GDP. The common aftermath of these episodes is a substantial reduction in the actual values of the series, coinciding with periods of macroeconomic stabilization and fiscal reforms. Furthermore, it is ostensible how the series represented a negligible part of GDP before the outbreak of the financial crises of the 1930s and 1980s; both two events followed periods of external bonanzas and high growth rates.

The behaviour of F_t/Y_t reveals interesting similarities and contrasts with the traditional wisdom about the historical behaviour of public debt, particularly in Western developed economies. Public debt achieves its highest proportions of income during periods of war or "national emergency", the argument goes, and then declines during periods of peace. In our case, external crises constitute a crucial source of "national emergencies" and the cause of huge increases in public debt. Once "normality" is restablished the F_t/Y_t ratio goes back to lower levels. On average, the stock of internal public debt has corresponded to 5.23% of GDP.

GRAPH 22



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Leaving aside the peculiarities of Graph 22 it is worthwhile to ask whether the ratio $f_t=F_t/Y_t$ would ever stop changing given the presence of government deficits which are at least partly internally financed. The growth rate of f can be divided as follows,

$$df/f = dF/F - dY/Y \qquad (11)$$

where dF/F is the annual growth rate of internal government financing, and dY/Y = n the annual growth rate of GDP. In the steady state, with df/f = 0, we get dF/F = n, which means that an hypothetical stationary value of f~ corresponds to the internal debt growing at the same rate of the economy. The last equality can be rewritten in terms of output, to yield the following result,

$$nf\sim = dF/Y \qquad (12)$$

which says that given the output growth rate and the stationary value of the debt/output ratio, the value of dF/Y is obtained. In other words, (12) shows that the change in the

annual internal financing must be held to an x% of GDP in order to stabilize the F/Y ratio at a level hypothetically predetermined by governments.

Equation (12) gives us an idea of how governments can select a target value for (dF/Y)*. Suppose that in our case study governments endorse the average value of f, namely, 5.23%; given a trend growth rate of output of 4.54%, the annual change in the stock of internal debt must be held to 0.23% of GDP. This simple procedure is just an application of the public debt literature of the 1940s associated with the names of Alvin Hansen and Evsey Domar (Domar, 1944), which we discussed earlier in Part I, Section I of this work. The seminal idea which was neglected for three decades before being rediscovered in the 1980s along Keynesian lines (Blanchard, 1984, Eisner, 1987) is that in a growing economy there is some equilibrium ratio F/Y consistent with any dF/Y ratio.[4]

What is the significance of fixed targets and how do they fit in the context of equation (10)? Fixed targets represent government commitments not to deviate from a determined F/Y ratio for economic and/or political reasons. On merely technical grounds it would be desirable to know which of the possible values of f~ is consistent with the economy's long-run equilibrium. But it would, at least, demand information on portfolio behaviour (Tobin, 1985, 1986). Fixed targets can be seen as temporary measures adopted in the light of their stabilizing effects. Operationally, they constitute a sort of integral control mechanism by which there is an automatic correction for past deviations from the value of the adopted target (Artis, 1987).

Back to equation (10) it is worth noting that the model itself implies that governments' decisions regarding planned changes in internal financing are more complex than the design of fixed targets. The expected future evolution of government financial resources constitute an additional ingredient in the process of decision making. Additionally, the actual values of dF/Y are affected by innovations which by definition escape from planning processes. A further point is the implication of the chosen value of the target

(0.23% of GDP) for the estimation results. In fact, the setting of a specific value of the target only affects the scale on which the variables of the model are estimated. Particular values of (dF/Y)* do not affect the dynamic behaviour of the model. However, the fixed target is a simple device applied in the formulation of the quadratic cost function (3) and the derivation of equation (10).

2. Estimation methods.

A central idea in equation (10) is that governments form expectations rationally about future values of some variables. The (X^e_{t+i}) terms are the unobservable values of the explanatory variables (X_{t+i}) expected by governments at time t-1 to prevail at t+i. It has been previously assumed that governments do not foresee more than three years ahead when planning their internal financing for period t.

Two methods widely mentioned in the literature are applied to the estimation of (10). The first method assumes that agents, governments in this case, only utilize part of the relevant information in forming their expectations regarding (X_{t+i}). Lagged values of (X) constitute the most probable information to be considered by governments. Because only a portion of the relevant information is taken in account, the method is termed "partly rational" or "weakly rational". According to this approach governments would replace the rationally expected variables in (10) by forecasts obtained from univariate regressions of the (X_t) variables on their own lagged values. The method is complemented by the application of the chain rule of forecasting, according to which future values of a variable can be expressed as a function only of information available at the time the forecasts are made.

The second method assumes that agents, governments in our case, use all the relevant available information in forming their expectations respecting (X_{t+i}). The procedure suggests to replace the expected variables (X^e_{t+i}) by observed values of the same

variables (X_{t+i}). By creating measurement errors in the (X) variables the model will only depend on observable variables (Wickens, 1982).

a. The "substitution" method.

The econometric results obtained from the application of the methods just mentioned appear in tables 7, 8, and 9. The initial stage in implementing the first method, also called the "substitution" method, is the estimation of forecasting equations for the expectational variables in (10). Table 7 displays the forecasting equations chosen after running regressions of sixth order autoregressive processes, including a constant. The parsimonious versions of these processes for real GDP and for real government expenditures are given by first-order autoregressions. The five preferred equations offer an adequate representation of the empirical evidence in terms of fit (though the R^2 for the f' equation is somewhat lower) and in terms of absence of serial correlation in the residuals of up to order 4 and 6, at the 5% significant level.

The forecasting equations were used to obtain the expected data series required for the estimation of (10). The current expected values for output, government expenditures, imports and external financing were used to obtain the current shocks on these variables, as given by the difference between actual and expected values. The equation for r_t - number (1) in Table 1- was applied to generate the current, one-step, two-steps and three-steps ahead predictions, r^e_{t+i}, by means of the chain rule of forecasting. These predictions were used to derive the series for the dr^e_{t+i} terms in equation (10).

TABLE 7

Autoregressive Forecasting Equations

(1) Ratio government internal financial resources to GDP equation, $r_t = R_t/Y_t$

$$r_t = \underset{(5.38)}{0.588}r_{t-1} + \underset{(3.76)}{0.428}r_{t-6}$$

R^2=0.954, SE=1.70, DW=2.36, $s_1(4)$=5.48, $s_2(4)$=1.36
$s_1(6)$=7.25, $s_2(6)$=1.19

(2) Real GDP equation.

$$Y_t = \underset{(12.22)}{0.827}Y_{t-1}$$

R^2=0.720, SE=0.026, DW=2.42, $s_1(4)$=5.37, $s_2(4)$=1.35
$s_1(6)$=6.94, $s_2(6)$=1.16

(3) Real government expenditure equation

$$G_t = \underset{(47.5)}{0.989}G_{t-1}$$

R^2=0.974, SE=0.011, DW=2.4, $s_1(4)$=5.91, $s_2(4)$=1.50
$s_1(6)$=8.00, $s_2(6)$=1.36

(4) Real imports equation

$$M_t = \underset{(12.57)}{1.111}M_{t-1} - \underset{(-2.85)}{0.318}M_{t-3} + \underset{(2.59)}{0.250}M_{t-6}$$

R^2=0.976, SE=0.209, DW=2.04, $s_1(4)$=0.887, $s_2(4)$=0.20
$s_1(6)$=1.003, $s_2(6)$=0.14

(5) Ratio external financing to exports equation.

$$f'_t = \underset{(7.42)}{0.685}f'_{t-1} + \underset{(2.76)}{0.367}f'_{t-5} - \underset{(-2.08)}{0.288}f'_{t-6}$$

R^2=0.548, SE=0.172, DW=1.97, $s_1(4)$=4.22, $s_2(4)$=1.00
$s_1(6)$=5.69, $s_2(6)$=0.89

NOTES
Asymptotic t-statistics are shown in parentheses
SE: standard error of the regression
DW: Durbin Watson statistic
Lagrange Multiplier statistics for autocorrelation up to order (n):
CHISQ(n): $s_1(n)$
F(n, T-n-k): $s_2(n)$. T: observations. k: regressors

The results of the OLS estimation of the forward-looking model for the period 1931-85 appear in Table 8.

TABLE 8
Estimates of the Forward-Looking Model
1931-1985

	(1) Unrestricted Model	(2) Restricted Model	(3) Restricted Model Significant Variables
REGRESSORS			
$(dF/Y)_{t-1}$	0.25 (2.1)	1.19 (2.77)	0.97 (2.89)
$(dF/Y)^*$	-0.97 (-0.35)	1.87 (2.61)	1.67 (2.59)
dr^e_{t+1}	-0.40 (-0.16)		
dr^e_{t+2}	-0.52 (0.15)		
dr^e_{t+3}	0.97 (0.17)		
dr^e_t		-0.009 (-0.73)	
Y^u_t	-0.06 (-1.08)	-0.053 (-1.075)	
G^u_t	-0.003 (-0.03)	-0.012 (-0.12)	
M^u_t	-0.02 (-2.40)	-0.016 (-2.53)	-0.018 (-3.23)
f'^u_t	-0.008 (-1.08)	-0.007 (-0.94)	
V_1	0.051 (7.56)	0.050 (7.68)	0.049 (8.10)
V_2	-0.031 (-5.16)	-0.031 (-5.26)	-0.031 (-5.57)
TESTS			
R^2	0.75	0.74	0.73
$s_1(4)$	6.78	5.59	3.49
$s_2(4)$	1.41	1.19	0.78
$h_1(4)$	1.13	1.24	1.27
$h_2(4)$	0.86	1.47	2.41*
N(2)	0.22	0.19	0.419

R(2)	3.18	2.95	3.15
RESTRICTIONS' TESTS			
LR(2)		0.96	
F(2, 55-11)		0.40	

NOTES
1. Asymptotic t-statistics are shown in parentheses.
2. Tests are defined as in the previous section. They are also explained in the text.

Are these results consistent with the framework previously exposed? Two elements are crucial in the model under discussion. The first concerns the magnitude of the root q_1. As explained above, $0<q_1<1$, but the closeness of q_1 to either one or the other extreme shows how important is for governments to keep fixed average tax rates (T_t/Y_t) over the business cycle. A value of q_1 close to 1 reveals that governments give considerable importance to the constancy of tax rates. In particular, it reveals that governments are very much concerned with preserving tax-rates stability than with keeping their debt targets. This government behaviour is illustrated in the quadratic loss function (3) by a high value of a_1 attached to the costs of changing the average tax rates, as compared with the value of a_0 [Recall that as seen in (5), q_1 depends on $a\{=a_0/a_1\}$ and D]. Conversely, a value of q_1 near to 0 signifies that fixed average tax rates are not a policy priority, and in any case, that the weight a_1 is just greater than a_0 which is the weight attached by governments to the fact of being away from a debt target. The second crucial aspect of the model is that it implies a testable restriction between the backward-and-forward looking variables: q_1 which is the coefficient of the lagged dependent variable appears affecting the forward variables.

The unrestricted version of the model reports an estimate of q_1 equal to 0.25 which is significant at the 5% level. This result suggests that a_1 is not very much higher than a_0 in equation (3), what amounts to say that in our case study governments have not attached an important weight to the costs of varying average tax rates. The restricted version of the model is obtained after imposing the estimated value of q_1 on the backward and

forward variables, and on the term (dF/Y)* in equation (10). The validity of these restrictions is checked at the bottom of table 8 by applying conventional tests: the likelihood ratio test, LR(g), asymptotically distributed as chi-square (g) where g is the number of restrictions; and equivalently, an F-test for g restrictions on the unrestricted model, distributed as F(g,T-K) under the null hypothesis that the restrictions are valid. Given two restrictions (g=2), the 5% critical values are 5.99 and 3.21 respectively. Since the results reported in the table are less than the critical values, the null hypothesis that the restrictions are valid is statistically accepted.

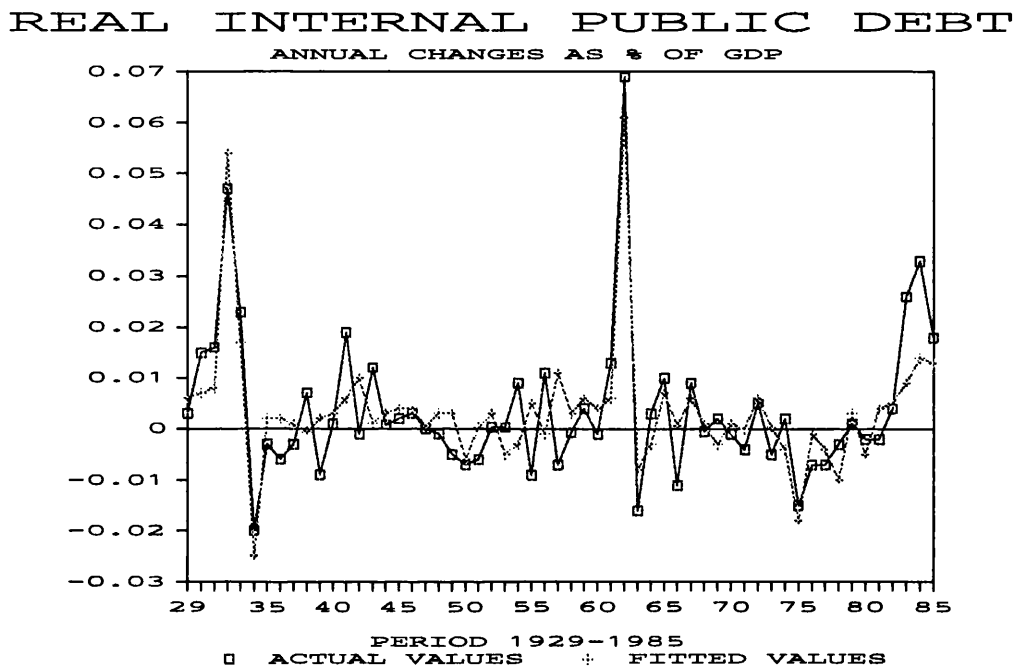
The restricted model was reestimated only considering the most significant variables (Column 3). The estimated coefficients of the lagged dependent variable, and of the constant target value are preceded by the right sign, and significant at the 5% level. The expectational term which appeared in column (2) preceded by the hypothesized sign (-), given D=1 and the positive growth trend of (r_t), proved to be insignificant, and therefore had to be excluded from the regression under column (3). If, hypothetically, governments considered the tax rate (T/Y) as a proxy for r_t, as previously discussed, the results in Table 8 would be quite similar: in particular, the estimated value of q_1 in the unrestricted model would be the same (0.25) and significant (t-statistic:2.78), and the expectational term in column (2) would be significant at the 10% level.

Imports appear to be the most significant shock affecting the actual ratio dF_t/Y_t. The dummy variables are clearly significant at the 5% level, and their performance is illustrated in Graph 23. The first dummy (V_1) captures the huge upsurges of public debt in 1932 and 1962. The second dummy (V_2) fits the noticeable debt decreases in 1934, 1963 and 1975.

The data coherency suggested by the behaviour of actual and fitted values in Graph 23 is better appreciated in the criteria reported in Table 8, where the test statistics denoted by a (*) reject H_0 at the 5% significance level. The models perform satisfactorily within

sample regarding the fit: 75% of the total sum of squares is explained by the regressions. Additionally, the absence of a systematic lack-of-fit is confirmed by the outcome of tests for residual autocorrelation and residual heteroskedasticity.

GRAPH 23



NOTES
Forward-looking model for the real internal public debt (estimating equation 10 and estimates in Table 8). Actual and fitted values.

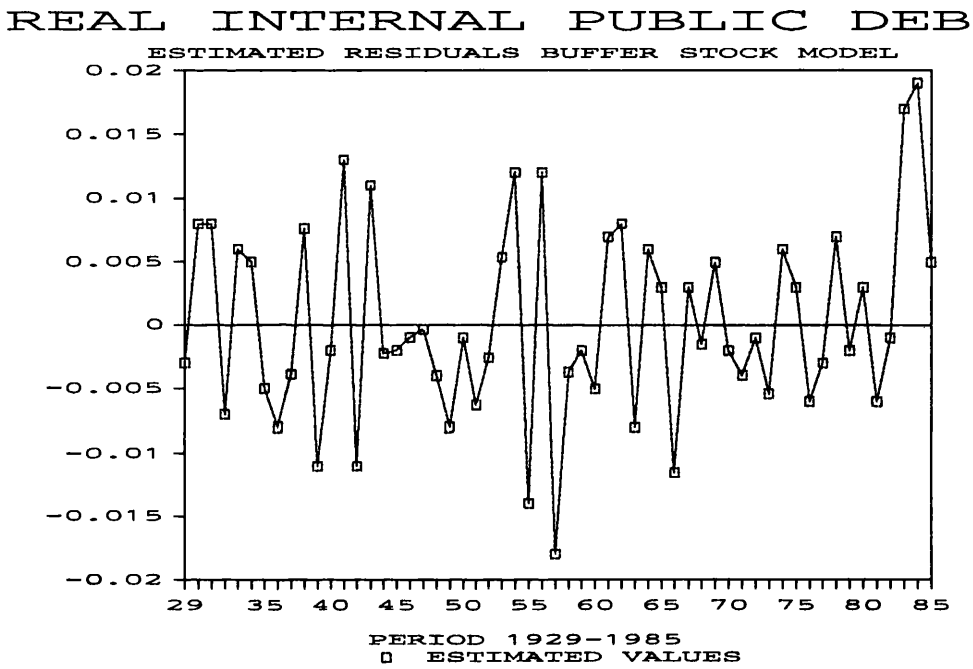
SOURCES
Informe del Contralor

As in the previous section, $s_1(n)$ is the Lagrange Multiplier test asymptotically distributed as a chi-squared distribution under the null; and $s_2(n)$ is the Lagrange Multiplier type F-test. Similarly, $h_1(n)$ is the ARCH test in its F-form and $h_2(n)$ a test for heteroskedasticity due to squares of the regressors. N(n) is a test for normality of the residuals, and R(n) is the RESET test for departures from the linearity assumption. The unrestricted model and the restricted model pass all the tests but there is a marginal

failure of the $h_2(n)$ test in the regression under column (3) which emerges when the variable Y^u_t is excluded from the set of explanatory variables.

The time path of the residuals corresponding to the restricted model (Table 8, column 3) appears in Graph 24.

GRAPH 24



NOTES
Estimated residuals for the forward-looking model (estimating equation 10 and estimates in Table 8).

SOURCES
Informe del Contralor

It can be shown that the series is statistically stationary.[5] Some "outliers" are observed in 1957, and particularly in 1983 and 1984. Tests for parameter constancy are applied, and new estimates obtained after running regressions with 9 forecasts over the period 1931-1985 are reported in Table 9. The two tests for parameter constancy used here are the "Hendry forecast test" (Hendry, 1983) and the Chow test. The analysis of 1-step forecasts

reveal that the Chow test is significant for the years 1983 and 1984, but overall, the four estimations shown in Table 9 pass the Chow test CH(n, T-k-n). As for the Hendry forecast test H(n) the outcomes are rather high.[6] The estimate of q_1 in the unrestricted model is somewhat lower than in the previous exercise and significant at 10% when the more significant variables are considered.

The validity of the backward-forward restrictions for the estimations in Table 9 is corroborated by the corresponding LR(g) and F(g,T-K) tests. Both the restricted and the unrestricted models exhibit serial correlation but this characteristic vanishes when regressions are limited to the significant variables. Residual autocorrelation is a likely outcome in regressions with forward-looking variables where the predicted series are generated by repeated substitutions based upon information available at the time the forecasts are made. Finally, the R^2 and the rest of the tests displayed on Table 9 substantiate the idea obtained from the regressions in Table 8, according to which the models adequately characterize the empirical evidence.

TABLE 9
Estimates of the Forward-Looking Model
1931-1985
9 Forecasts

REGRESSORS	(1) UNRESTRICTED MODEL	(2) UNRESTRICTED MODEL SIGNIFICANT VARIABLES	(3) RESTRICTED MODEL	(4) RESTRICTED MODEL SIGNIFICANT VARIABLES
$(dF/Y)_{t-1}$	0.20	0.15	0.94	0.72
	(1.54)	(1.68)	(1.64)	(1.58)
$(dF/Y)^*$	1.52		1.10	1.01
	(0.53)		(1.61)	(1.67)
dr^e_{t+1}	-0.07			
	(-0.03)			
dr^e_{t+2}	-0.09			
	(-0.03)			
dr^e_{t+3}	0.14			
	(0.02)			
dr^e_t			-0.01	
			(-0.50)	
Y^u_t	-0.05		-0.05	
	(-1.01)		(-1.06)	
G^u_t	-0.03		-0.02	
	(-0.23)		(-0.22)	
M^u_t	-0.01	-0.01	-0.01	-0.013
	(-1.69)	(-1.93)	(-1.78)	(-2.09)
f^{*u}_t	-0.01		-0.01	
	(-0.02)		(-0.06)	
V_1	0.05	0.05	0.05	0.05
	(8.26)	(9.41)	(8.61)	(9.06)
V_2	-0.03	-0.02	-0.03	-0.03
	(-4.21)	(-4.33)	(-4.38)	(-4.7)
TESTS				
R^2	0.78	0.75	0.78	0.76
$s_1(4)$	12.8*	5.87	13.0*	9.08
$s_2(4)$	2.98*	1.40	3.3*	2.27
$h_1(4)$	0.62	2.36	0.72	1.71
$h_2(4)$	0.98	1.29	1.04	1.83
N(2)	0.81	0.97	0.79	0.92

H(9)	2.0	2.5	2.0	2.1
CH(n,T-k-n)	1.5	2.1	1.6	1.8
R(2)	1.44	2.36	1.4	1.9
LR(2)		0.09		
F(2, 46-11)		0.04		

NOTES
1. Asymptotic t-statistics in parentheses
2. H(n) is the Hendry forecast test, and CH(n, T-k-n) the Chow test. Other tests as in Table 8.

b. The "errors in variables" method.

The model in (10) will depend only on observable variables if the expected variables, dr^e_{t+i} (i=1,2,3), are replaced by the first three leads of the actual series dr_t. Because this procedure resembles an errors-in-variables model the OLS estimation of the parameters of the dr_t variables is asymptotically biased toward zero. An alternative technique of estimation is based on instrumental variables (IV). Thus, (10) can be consistently estimated by the IV method, with the instrument for the vector of observations dr_t being the estimated vector $\hat{dr}_t$ obtained from the OLS regression of dr_t on a matrix of exogenous variables and instruments.

There is a particular reason for the use of the IV approach. It has been documented (Pagan, 1984), that the standard errors computed in the second step of the "substitution" method are biased downwards, and therefore the t-statistics tend to overstate the true values. This drawback of the statistical inference with the two-step estimator is overcome by applying the IV method. Additionally, our model satisfies the conditions required for identification. As it is recognized, these conditions have to be checked before applying IV procedures (Pesaran,1987). It was formerly explained that the model has two characteristic roots, real and distinct (q_1 and q_2), where q_2 exceeded unity and q_1 -the stable root- was less than unity. Then the model is identified as characterized by a unique stationary solution.

The results of the IV estimation of equation (10) over the period 1931-1982 are presented in Table 10. A set of instruments chosen according to the goodness of fit of the model is used in the case of the first three regressions.[7]

The first contrast between the two-step estimators regression (1) in Table 8 and regression (1) in Table 10 is that the IV estimation reports significant estimates for the variables dr_{t+1} and dr_{t+2} which replace the expectational terms dr^e_{t+1} and dr^e_{t+2}. A second IV estimation with the significant variables of regression (1) as explanatory variables yields an estimate for dr_{t+1} which is significant at the 5% level, and an estimate for dr_{t+2} significant at the 10% level. By carrying on the process of looking for a more parsimonious version of the estimation results the significance of the dr_{t+i} terms vanishes completely. As seen in the table, after running equation (3) we are left with the simple OLS estimation whose results are reported in column (4).

The second contrast with the results in Table 8 is the lack of significance of IV estimates of the coefficient q_1 of the lagged dependent variable, although the more parsimonious regression in column (4) reports an estimated coefficient of q_1 equal to that of the two-step estimators regression (1) in Table 8. As with the estimation results in Table 9, the diminished significance of the estimate of q_1 appears to be related to the reduced size of the sample observations.

TABLE 10
Estimates of the Forward-Looking Model
1931-1982
Instrumental Variables

	(1) IV	(2) IV Significant Variables (a)	(3) IV Significant Variables (b)	(4) OLS Signific Variables
$(dF/Y)_{t-1}$	0.08 (0.94)	0.11 (1.33)	0.14 (1.49)	0.25 (2.9)
$(dF/Y)^*$	1.03 (2.25)	0.86 (2.03)	0.99 (2.09)	1.24 (2.59)
dr_{t+1}	-0.0032 (-2.93)	-0.002 (-2.42)	-0.0009 (-1.10)	
dr_{t+2}	-0.0021 (-2.35)	-0.001 (-1.80)		
dr_{t+3}	-0.0010 (-1.55)			
Yu_t	-0.03 (-0.65)			
Gu_t	-0.040 (-0.50)			
Mu_t	-0.008 (-1.53)	-0.009 (-1.98)	-0.013 (-2.49)	-0.018 (-3.23)
f^*u_t	0.002 (0.34)			
V_1	0.037 (4.59)	0.040 (5.89)	0.047 (7.04)	0.049 (8.10)
V_2	-0.018 (-3.25)	-0.021 (-4.05)	-0.024 (-4.31)	-0.030 (-5.57)
TESTS				
R^2				0.73
IVS	3.71	2.6	3.7	
$s_1(4)$	1.47	1.4	1.5	3.5
$s_2(4)$				0.7
$h_1(4)$	0.66	0.84	0.3	1.3
$h_2(4)$	2.11	2.1	1.8	2.7*
N(2)	0.91	0.7	3.0	0.4
R(2)				3.3*

NOTES

1. The IVS test is the Sargan (1964) test for the validity of instruments.
2. Other tests as in Table 9.

The IV estimations corroborate our previous findings according to which shocks on imports constitute the more significant statistical explanation of the unplanned component of changes in internal financing, dF^u_t/Y_t. Significant results are obtained when the more significant variables are used as explanatory variables.

Another common element of the regressions as a whole is the clear significance of the dummy variables; and a particularity of regressions in Table 10 is the significance of the estimate of the constant term which in our case represents the fixed target value of debt. Finally, the diagnostic tests which accompany the IV estimations support the idea that the models adequately characterize the empirical evidence.

C. Summary of empirical results and links with other sections of this work.

The empirical results can be summarized as follows:

First, the two-step estimation of equation (10) gives a low and significant estimate of the coefficient (q_1) of the backward-looking variable. Additionally, the restriction between backward-and-forward looking variables in equation (10) is found to be valid. Both the significance and the low value of the estimate of q_1 have two important meanings in the context of our work. The first and most crucial is the relative closeness of the estimated q_1 to zero rather than to one, which implies that governments have not stuck to preserving constant tax rates over time. Had the estimate been close to one, as hypothesized by tax smoothing theories, we would have concluded otherwise. In terms of the quadratic cost function in equation (3), the low estimate of q_1 indicates that the weight attached by governments to the cost of changing the average tax rates is not far

above the weight attached to deviations from a debt target. The significance of the estimate of q_1, regardless of its value, is also important since it highlights the presence of persistence effects in the form of a lagged dependent variable. In terms of the Colombian experience, this result coincides with one of the conclusions of our estimations in Section I, according to which a sluggish adjustment of internal public debt characterized the period of study.

Second, the estimated coefficients of the expected variables (dr^e_{t+i}) in equation (10) are found to be insignificant. On the contrary, the estimates of the coefficients of the observed values of the same variables (dr_{t+i}) appear to be significant when the more general specification is estimated. However, the significance of these terms (specifically, dr_{t+1} and dr_{t+2}) evaporates when the model is simplified following the principle of parsimony. It can be concluded that independently of the estimation methods applied - either two-step estimators, or IV, or OLS- the empirical analysis converge to a simple specification in which first, $(dF/Y)_{t-1}$, M^u_t, V_1, and V_2 form part of the explanatory variables, and second, the estimated coefficient of q_1 is low and significant.

Third, two common results characterize most of the estimations; one is that surprises on imports are the only significant element of the unplanned component of annual changes in internal financing; and the other one is the clear significance of the dummy variables included to capture nonnormal variations in the real stock of internal debt -due to either sudden changes in the nominal stock of debt or quick changes in the inflation rate-.

The reader may be wondering what the role is of the model discussed in this section and the results just summarized, regarding the historical enquiry which we are about to make in Part IV. The basic reference is the quadratic cost function in equation (3) which includes costs of deviating from a debt target, and costs of adjusting tax rates. Consider both quadratic terms in turn.

Do we find historical evidence of the existence of internal public debt targets? How can we justify the quadratic term in dF/Y? As for the first question, official sources do not mention the explicit existence of internal debt targets at any time during the period of study.[8] There were however, institutional constraints to the increase of internal debt. These restrictions limited the access of the government to the credit of the central bank (Part I, Section II.D., and Part II, C.3.). Along the period of study, authorities tried not to exceed those restrictions with the exception of times of deep external crises as in the early 1930s and early 1980s. In each case authorities considered the excessive increase of central bank loans as a temporary device. In conclusion, although the explicit adoption of internal debt targets does not seem to be a fact in the Colombian experience, the limited access to the credit of the central bank imposed a maximum which would only be temporarily transgressed under extreme circumstances. Regarding the second question, the model assumes that deviations from the target are symmetrically penalized. Our previous considerations, however, seem to suggest that authorities would much more severely penalize, perhaps only penalize deviations above the target, than deviations below it.

Can we find historical arguments to support the quadratic term in tax changes? Apart from political realities that authorities cannot avoid, there is historical evidence of institutional processes which constrain actual tax policies. In an extreme situation of economic emergence, governments could legislate about increases in internal public debt but not about tax changes. This does not mean that governments were unable to introduce tax changes. By going to Parliament governments could get tax changes after a legislative process; the implementation of those changes, however, could be significantly less quick than changes in internal debt.

Official sources document how governments exercised a simultaneous recourse to indebtedness and taxation during the period of study. Sometimes these changes in taxation were made to finance ad-hoc purposes such as part of the expenses of the war

with Perú in 1932-33, or to finance increases in internal debt service such as during World War II. However, in spite of the possibility of simultaneously increasing both, taxes and internal debt, the latter appeared to be the source of financing which much more quickly could provide the required funding, which in situations of emergency could be considerable, such as in the early 1930s and early 1980s. Lastly, while huge increases in internal debt proved to be a temporary phenomenon, simultaneous changes in taxation were only the first stage of processes of tax reform destined to provide permanent resources to the treasury.

SECTION II

NOTES

1. A stochastic target implies the existence of a "long-run" function of internal public debt. This function could be based on an optimizing approach to fiscal deficits such as the tax-smoothing model of Barro (1979) which we discussed in Part I, Section VI.

2. For estimation purposes, the restriction D=1 implies the possibility of using a linear estimation technique. The "buffer stock" literature on demand for money provides evidence of how by allowing for values of D less than one only brings about negligible effects on parameter estimates and test statistics. Cuthbertson (1984) adopts D=1, and Cuthbertson and Taylor (1986, 1987) impose D=0.99. Cuthbertson (1988) shows that the parameter estimates and the likelihood function of a forward looking demand for money function are fairly invariant to changes in D in the range 1-0.8. Finally, Muscatelli (1988) also reports negligible effects on estimated coefficients and test statistics after running regressions with three alternative values for D (1, 0.5, 0.25).

3. The way these variables enter into the estimating equations is different, however. In the previous section they were specified as residuals obtained from semilogarithmic regressions of each variable against time. In this section they are specified as differences between actual and expected values. Details are offered later in the text.

4. This description hides interest rate effects on the dynamics of public debt. An explicit mention of them can be made by discriminating dF in two components, namely, the change in the stock of internal financing due to the primary deficit, dF', and the change arising from debt service, rF, where r is the real interest rate. Then equation (11) becomes $df/f = dF'/F + r - n$, which can be rewritten as $dF'/Y = df + f(n-r)$. Additionally the stationary value of f in (12) is replaced by $(n-r)f\tilde{} = dF'/Y$. The last two results can be conveniently used to derive an expression of the impacts of the difference (n-r) on the dynamics of f, namely, $df = (f'-f)(n-r)$. Accordingly, either a real negative value of r, or a positive r with n>r yield stable results. Conversely, with r>n any deviation of f from its stationary value f' is magnified rendering unstable results (Haliassos and Tobin, 1990).

5. The Dickey-Fuller test for the lagged level of the dependent variable is (-8.8) which is significant at the 1% level (Critical value:-2.62). No lags of the differenced dependent variable were required to avoid serial correlation in the residuals. Neither a constant nor a time trend proved to be significant.

6. The Hendry forecast test H(n) is an index of numerical parameter constancy for (n) forecasts, and its value always exceeds the Chow test, CH(n, T-k-n). Because the former has a higher rejection frequency than the latter, independently of the correctness of the model (Kiviet, 1986), the Chow test is preferred as a test of parameter constancy over the forecasting subsample, and the H(n) is used to evaluate the model's ex ante forecasting performance. The PC-GIVE computer output shows the H(n) value divided by (n). Under H_0 this value should be below 2. The results obtained in Table 9 are equal or very close to 2.

7. The instruments chosen are the first three leads of the variable r_t: r_{t+1}, r_{t+2}, r_{t+3}; the first three leads of the change in the tax rate: d_{t+1}, d_{t+2}, d_{t+3}; and the current value of the change in r_t, dr_t, as well as the lags dr_{t-3}, dr_{t-4} and dr_{t-5}. The estimation under column (1) involves 3 endogenous and 8 exogenous variables with 18 instruments. The validity of the instruments chosen is tested by means of the Sargan (1964) test. Under the null that the instruments are valid and the model is correctly specified, the Sargan test has a Chi-squared distribution with (p-k) degrees of freedom, where p is the number of instruments and k the number of

regressors. In the case of the regression under column (1) the test yields $Chi^2(7)=3.71$ which is less than the critical value of 14.07.

8. The main official sources are the report of the Minister of Finance to Congress (Memoria de Hacienda) and the report of the Manager of the Central Bank (Informe del Gerente del Banco de la República).

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ESSAYS ON PUBLIC DEBT IN HISTORICAL PERSPECTIVE.

THE COLOMBIAN EXPERIENCE.

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PART IV

The public debt in Colombia. From the Pax Britannica to the interwar period.

INTRODUCTION

Our econometric work in Part III sought to formalize our hypotheses about the public debt in Colombia. These hypotheses were largely based on historical knowledge and the behaviour of economic time series studied in Part II. As for the specification of the estimating equations we were guided by the insights of economic paradigms reviewed in Part I. Encouraged by the empirical results obtained in Part II and Part III, we now turn back to the historical documentation. Our aim is to offer a more complete picture of relevant facts for the understanding of the Colombian experience with public debt than the state of affairs existing at the beginning of our research. This part of the thesis involves history and economics, and is intended to discuss the economics of public debt in Colombia in historical perspective.

As explained in the general introduction to the thesis, although our historical enquiry covered the same period of our empirical work in Part II and Part III, namely 1925-1985, we chose to dedicate Part IV to examine a complete experience with public debt in Colombia rather than offering a global description of facts during the whole period. Such an experience is largely related to the first great lending boom of the century during the 1920s. The relevant events were not confined to the 1920s, however, since default and renegotiations took place during the 1930s and 1940s, and part of the loans defaulted and renegotiated were contracted well before the 1920s. In summary, our research covers the Colombian experience with public debt since the times of the Pax Britannica (the lending boom of the 1820s, and the 1850s through 1914) up to the last renegotiation of external debts in 1949.

The reasons for choosing the period just mentioned are as follows:

First, the period is probably old enough to be discussed in perspective. Although there may be similarities between the foreign lending experiences of the 1920s and 1970s, the latter is quite recent and some of its developments are still in process. The former had repercussions through the 1930s and 1940s, and by the 1950s it was considered a fait accompli. An important amount of information concerning foreign debt contracting, debt buybacks, and strategies of renegotiation which would not have been accessible at the time given the secrecy and private character of the operations, could be studied today without insurmountable problems.

Second, the episodes discussed during the chosen period largely substantiate our underlying model. An important characteristic of that model is that regarding the Colombia's experience, international finance may be considered supply determined. Outbreaks of foreign lending are followed by increased access of the country to external funds, and when foreign capital markets retreat, credits to the country dry up. The period under discussion offers a variety of illustrations, since the first lending boom of modern times in the 1820s when Colombia stood out as one of the major foreign debtors, to the lending boom of the 1920s when the country shared the list of highly indebted countries in the Latin American region. Another crucial feature of the model is the shock-absorber role of the internal public debt. The early 1930s are full of examples; the internal public debt served to cushion severe shocks on the external sector, and even a sudden increase of government expenditures demanded by a war.

Third, by concentrating on the chosen period a series of objectives are reached. These objectives are described next.

One. A thorough cycle of foreign borrowing is examined. The period of study offers various examples of boom-and-bust cycles of external lending during the Pax Britannica, covers the conversion of the United States from international debtor to international creditor, and

encompasses the whole boom-and-bust cycle of U.S. private lending during the 1920s followed by defaults and renegotiations during the next two decades.

Two. A fresh insight into the role of the internal public debt is provided. Although examples of the cushioning function of the internal public debt are found along the period of study, the great depression (1929-34) is perhaps the most complete experience. Since the gold standard was the international monetary regime, it became the mechanism through which external disturbances (deep depression at the centre -particularly the U.S. economy-, collapse of world commodity prices and cutback of foreign lending) were transmitted to peripheral economies such as Colombia. It is shown how domestic asset markets were affected by the external shocks through a diversity of channels, while authorities remained inhibited to adopt offsetting policies. It was only an extreme fragility of the domestic financial system and the worldwide demise of the gold standard which led authorities to adopt exchange controls and later to negotiate partial suspensions of foreign debt repayments. Recovery was then possible and the internal public debt was assigned a crucial role, namely, to absorb those shocks according to their channel of transmission to the domestic economy.

Three. This research affords the first fully detailed account of the gradual process of default and renegotiation of Colombia's external debt during the interwar period, based on sources of information as yet unexplored. It is the scrutiny of this new documentary evidence that allows us to illustrate the long-term relationship between creditors and debtors, which remains even when formal debt contracts have been broken.

Fourth. New series of the external debt of Colombia for the period 1925-50 are constructed. These series are based on the reconstruction of series of individual loans by taking in account the effects of defaults, repatriations and renegotiations.

This part is divided into three sections. The first section offers a general outlook of phases of international lending between 1880 and 1985. Particular attention is dedicated to the boom-

and-bust cycles of international finance during the Pax Britannica and the 1920s. The share of Colombia in the surges of foreign borrowing, and her fate after the retreat of external capital markets is a central concern in this section. The second section documents our crucial hypothesis of the shock absorber role of the internal public debt. It is shown how after breaking the binding constraints imposed by the gold standard and starting a gradual default on the external debt, authorities adopted recovery policies and rescue actions many of which were made possible by the use of the internal public debt. In the final section the reader will find how the formal foreign debt contracts which were broken in the early 1930s were renegotiated, then completing the last stage of the cycle of foreign lending. Final settlements came about after a drawn out process of strategies adopted by both creditors and debtors, and an active involvement of governments on the creditors' side.

SECTION I

From the Pax Britannica to the Pax Americana.

Introduction

Cyclical patterns have characterized foreign lending since the 19th century. Capital moves across national borders attracted by the profitability of some range of investments abroad. Foreign lending proceeds until some event arises to stop capital exports. Borrowers find it difficult to service the debt, and periods of default, negotiations and reschedule of debt payments then ensue. Foreign lending is reduced to a minimum for perhaps decades, until a new set of opportunities overseas attract the investors' attention.

The access of Latin America to international capital markets since the beginning of the 19th century has been determined by the cyclical character of the foreign lending process. The main lenders have been Great Britain and the United States, the former since the 1820s up to World War I, and the latter since the 1920s. In this section we focus our attention on the boom-and-bust cycles of British and U.S. foreign lending and on the share of Latin America in those periods of large scale capital movements.

Colombia became an international borrower immediately after her political independence from Spain in 1819. She was one of the main borrowers in the first modern cycle of British capital exports. This was an ephemeral experience, however, since the country became a small participant in the London financial markets for the rest of the period of Pax Britannica. Colombia reappeared in foreign financial markets with the U.S. lending boom of the 1920s. The country got a place in the list of highly indebted borrowers worldwide, and was one of the four major South American debtors though still at a notable distance from the two most important debtors of the time, Argentina and Brazil. In the recent lending boom of the 1970s,

Colombia was again a highly indebted country, both in the South American region and worldwide. In this section as in the remaining historical sections, we discuss the Colombian experience as international borrower in the Latin American context.

We organize the section as follows. First, we offer a general outlook of phases of international lending between 1880 and 1985. Particular attention is dedicated to the foreign investment's cycles of Great Britain and the United States, and the relative importance of Latin America as a borrower. Second, we discuss the leading role of Great Britain as a capital exporter during the period of Pax Britannica. Our central concern is the description of long swings in the British foreign lending. We examine the fate of the Latin American borrowers during the boom-and-bust cycles of British capital exports. Third, we describe the process by which the United States evolved from being a debtor nation to be a creditor nation during World War I, and how a new international lending boom was forged in the mid-1920s. Once more we highlight the share of Latin America in the enlarged borrowing with particular reference to the four main debtors, Argentina, Brazil, Chile and Colombia.

Fourth, we scrutinize the Colombian experience during the euphoric borrowing of 1926-1928. We discuss the financial conditions of the access of the country to the U.S. lending boom in comparison with other foreign debtors. Fifth, we describe the collapse of the U.S. foreign lending in 1928. A good deal of attention is dedicated to the fortunes of the main South American debtors in the aftermath of the exhaustion of the U.S. loan boom. Sixth, we present a brief balance of changes in the distribution of foreign investments between the end of the Pax Britannica and the downfall of the U.S. lending boom. Finally, we offer general conclusions and mention links with other sections of this work.

A. Phases of international lending.

During the last century international lending has been characterized by notable changes in the level of capital exports from industrialized to industrializing countries. A first panoramic

view of such changes is offered in Table 11, where the concept of absolute value of the current account of the balance of payments is used to illustrate the magnitude of international capital flows. Three countries -Germany, the United Kingdom and the United States- have been chosen with the only criteria that they have played protagonist roles in international finance over the last century, and that the addition of other countries does not significantly alter the results.[1]

TABLE 11

BALANCE OF PAYMENTS
CURRENT ACCOUNT*
PER CENT OF GNP

(Annual Averages)

PERIODS	United Kingdom	United States	Germany	TOTAL
1. 1880-1914	4.50	0.91	1.82	2.41
1880-1890	4.98	0.95	2.34	2.76
1891-1903	2.63	1.17	1.65	1.82
1904-1909	5.30	0.59	1.50	2.46
1910-1914	7.73	0.28	1.41	3.14
2. 1924-1938	1.15	0.56	1.54	1.08
1924-1929	1.60	0.82	1.92	1.45
1930-1938	0.85	0.39	1.22	0.82
3. 1950-1985	1.10	0.57	1.96	1.21
1950-1972	0.94	0.38	2.12	1.14
1973-1985	1.40	0.86	1.66	1.31

Sources: Mitchell (1983)
IMF. International Financial Statistics

* Absolute Values

The history of capital movements is broken down into three different periods: the pre-World War I period starting about 1880, the interwar years with the main developments happening since the mid-1920s, and the second post-War period between 1950 and 1985. Table 11 sets out the ratios of the absolute values of the current account of the balance of payments to GNP, for the periods just mentioned. It is shown how the average ratio for the three countries sharply fell -55%- between the pre-War I era and the interwar period, and then partially recovered -12%- during the post-War II decades. Accordingly, the figures achieved during the period 1880-1914 would not be reached subsequently.

New facts are revealed when particular country experiences are compared and the main periods subdivided. Unweighted averages by countries and for the three periods as a whole, indicate that relative to their GNPs, capital movements across the United Kingdom national borders largely outstripped those of Germany, and trebled those of the United States. The predominance of the United Kingdom is mainly explained by her capital exports during the 1880-1914 period when on average they represented 4.5% of GNP. The importance of such capital exports was unevenly distributed over those years, though. They averaged about 5% of GNP in the 1880s and 1900s doubling the ratio for the 1890s, and reached a figure of nearly 8% in the five years immediately before the outbreak of World War I.

Additional contrasts are offered by the experience of the 1920s and the second post-War period. Capital flows across borders expanded in the second half of the 1920s and retreated during the 1930s; the figures show that relative to the size of the economies, capital movements in the 1930s fell by more than 40% compared to those of the second part of the 1920s. As for the decades since World War II, it is shown how the figures obtained by the United Kingdom and the United States during 1950-1972 are similar to those obtained during the 1930s, the contrast being offered by the relatively high figure for Germany. It is only after 1973 that higher levels of international capital flows come into the scene. Considering the periods 1924-1938 and 1950-1985 as a whole, it is the higher averages achieved by Germany during the second period which bring about an improved global result for this last period.

Three ideas can be derived from this introductory inspection. First, international capital movements have experienced considerable fluctuations during the last hundred years. Second, on each one of the periods under consideration, subperiods of intensified capital exports have alternated with subperiods of reduced capital movements across national frontiers. Third, the period 1870-1914 stands out as the time in which the largest allocations of capital in recent history have been made.[2] These conclusions motivate a further discussion of the changing phases in the volume of foreign lending with reference to two central capital exporters -Great Britain in the pre-World War I period, and the United States afterwards-, and the share of Latin America in the allocation of capital exports.

As for the British case, the cycles of overseas investment over the period 1865-1914 are depicted in Graph 25. The actual data is based on estimates of "capital calls" due to Simon (1968).[3] Three positive cycles are projected along the period 1865-1914, separated by two periods in which British capital calls grew at a rate lower than the historical trend. These periods of depressed overseas lending corresponded first to the worldwide recession which dominated most of the 1870s, and second, to a decade of episodes adverse to international lending which started with the Argentina's inability to meet her financial obligations during the Baring crisis of 1890.

The destination of British investments abroad changed over time. Table 12 shows the composition of capital calls during the three positive cicles displayed on Graph 25. It is seen how new capital calls shifted from Europe to North America, Africa and Asia. Afro-Asian regions received slightly more investments than North America during the 1880s, but North America was definitely the main recipient during the last positive cycle. The share of North America, Africa and Asia as a whole in new British investments raised from 47% in the 1870s to 70% during the lending boom before World War I. Contrasting with these figures, capital exports to South America kept a constant participation of about 20% during the three

positive cycles. This means that British capital exports to South America increased at the average rate of British capital outflows during the period 1865-1914.

GRAPH 25

NOTES
Deviations from trend in logs
SOURCE
Simon (1968)

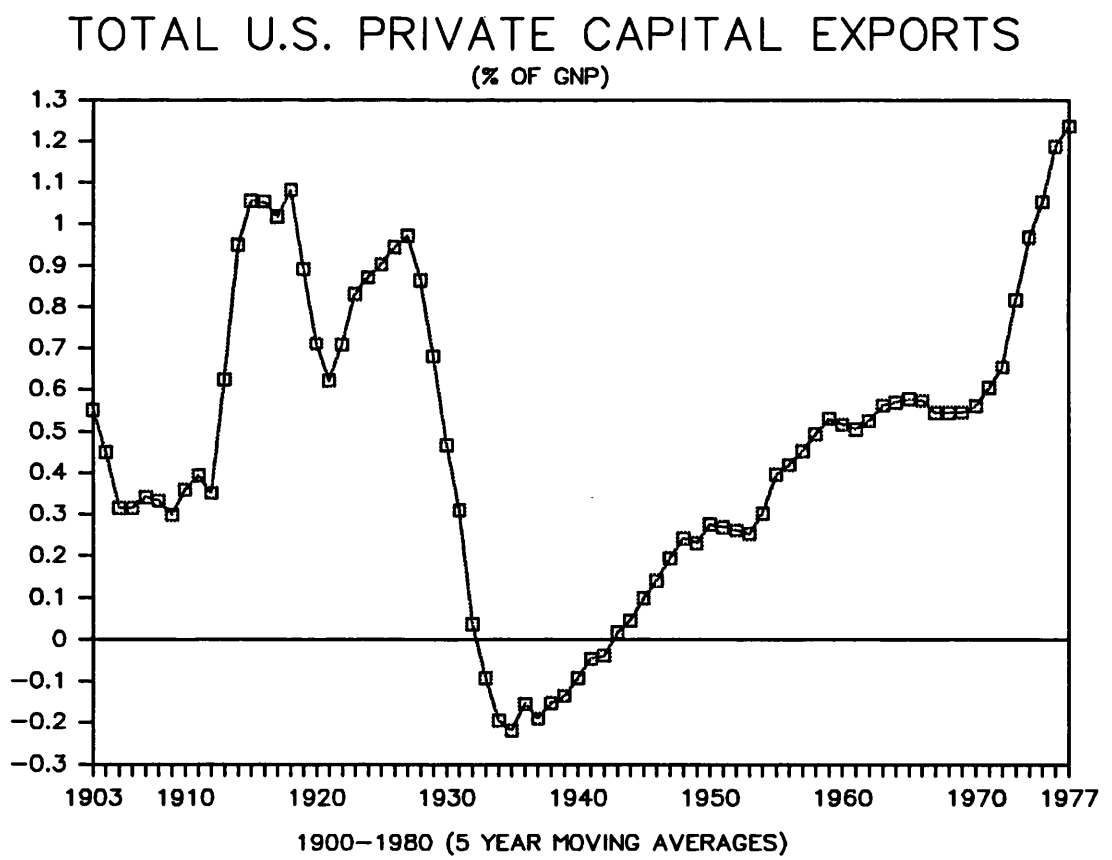
TABLE 12
BRITISH INVESTMENT ABROAD
CAPITAL CALLS BY CONTINENTS
SELECTED PERIODS
(Millions of £)

	1870-75		1880-90		1906-14	
	£	%	£	%	£	%
Europe	142.9	35.8	102.3	11.7	164.2	10.9
North America	125.9	31.6	280.0	32.0	638.2	42.2
South America	69.0	17.3	189.5	21.6	303.4	20.0
Africa & Asia[1]	61.1	15.3	304.0	34.7	407.5	26.9
Total	398.9	100.0	875.8	100.0	1513.3	100.0

Source: Simon, M (1968)
[1] Includes Australasia and Oceania

Regarding the U.S. experience, the evolution of private investment abroad -as a percentage of GNP- over the period 1900-1980, is depicted in Graph 26. The series have been smoothed by using five-year moving averages. As seen, the extent of capital outflows of the World War I period and the 1924-1928 period could not be repeated until the mid-1970s. A marked tendency for capital exports to rebound after the U.S. financial crash of 1928 was followed by a long inactivity which lasted until the early 1940s.

GRAPH 26

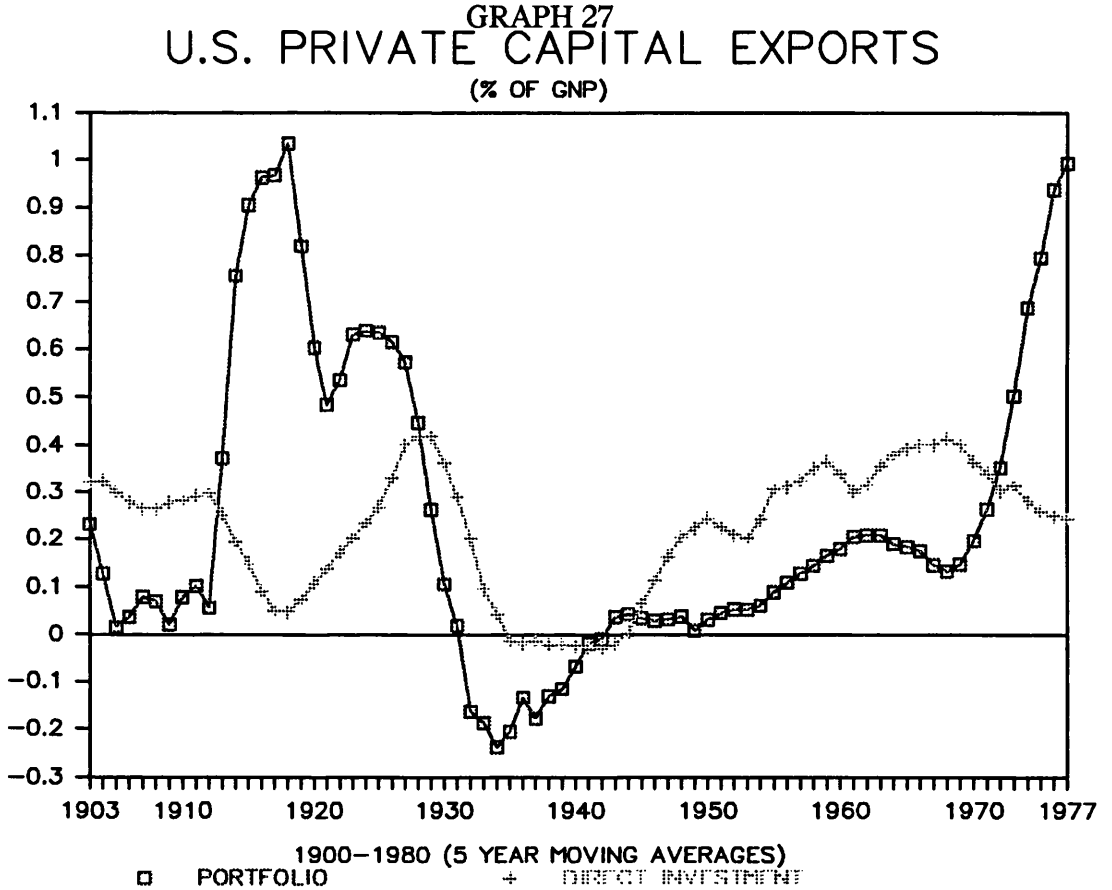


SOURCE
Stallings (1987)

A more explicit account is offered in Graph 27 which discriminates portfolio and direct investments. Five main periods may be distinguished. First, the decade before World War I during which direct investment represented a relatively constant proportion of GNP of about

0.3% and trebled portfolio investment. Second, the period between the outbreak of World War I and the onset of the Great Depression. Two phases can be observed in this period: the first one -1913 through 1918- dominated by a vertical increase of portfolio investment which notably displaced direct investment; and the second one -1919 through 1928- characterized by a continuous recovery of direct investment and the relative decline of portfolio investment. During the whole period, portfolio investment averaged 0.7% of GNP and direct investment 0.16%.

GRAPH 27



SOURCE
Stallings (1987)

Third, the interval between 1929 and 1942 during which both types of investment sharply declined -though direct investment at a slower rate- and eventually vanished. Furthermore, during the 1930s the United States became a net capital importer through the reflow of income from debt service and dividends. Fourth, the revival of foreign investment which

cautiously started during the second half of World War II, and decidedly after 1945. With a clear lead of direct investment this period lasted until the end of the 1960s. It is seen how even at its hightest points in the mid-1960s, direct investment could not reach the heights scaled in the late 1920s. As for portfolio investment, the levels achieved during the 1940s and first part of the 1950s were practically negligible and the lowest within the net positive values of the whole series. The first signs of sustained recovery of portfolio investment since its collapse in 1928 were felt in the mid-1950s when from a percentage of GNP as low as 0.05 in 1954, the share increased to 0.20% in 1964, before a new slightly declining period which lasted until 1967.

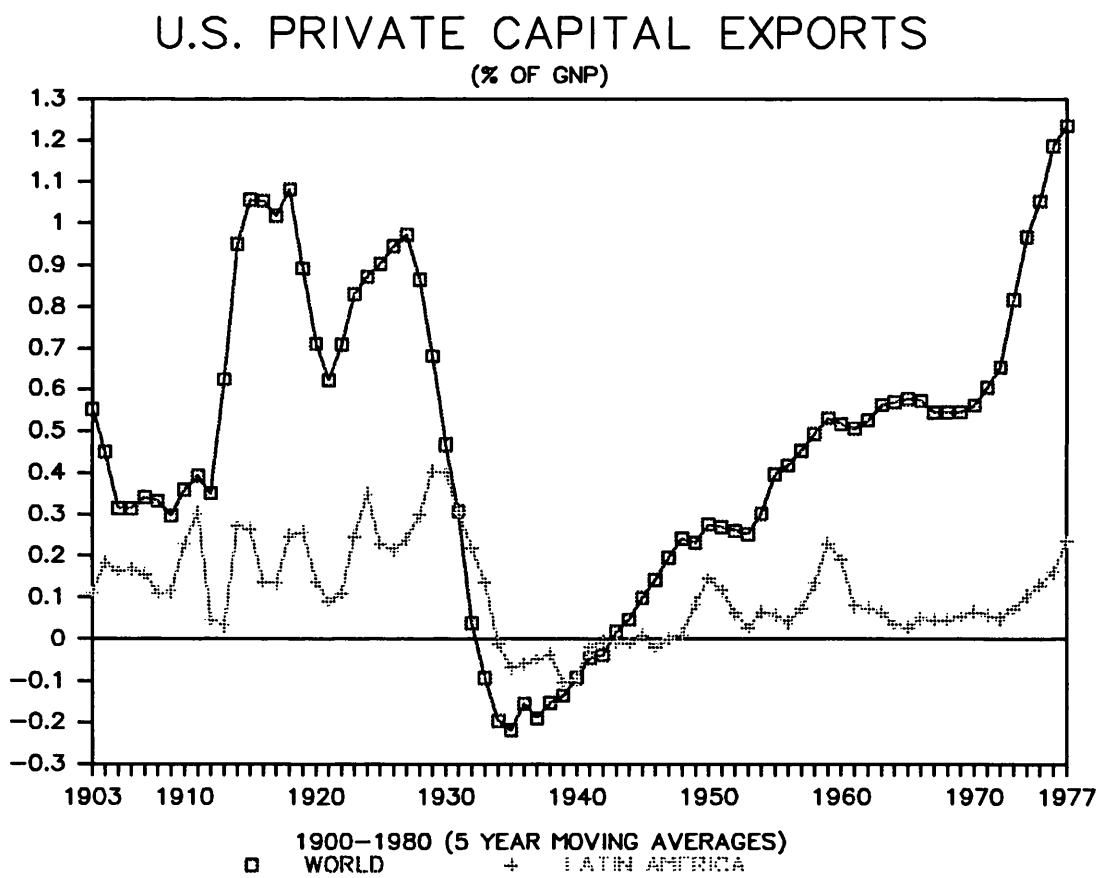
Finally, the fifth period covers the 1970s during which portfolio investment reached levels never scaled since the 1920s. While portfolio investments grew continuously during the 1970s reaching 1% of GNP at the end of the decade, direct investment declined, and its share of GNP at the end of the period was half as important as it had been in the mid-1960s.

The relative importance of Latin America as a recipient of U.S. private investments is shown in Graph 28. As seen, the heights achieved during 1927-1930 which averaged 0.34% of the U.S. GNP were neither reached before nor would be reached later, at least until the late 1970s. There is not clear correlation between the two paths in the graph, with exceptions such as the period 1930-1943, when the reduction of capital exports to Latin America was less intense than the average reduction of capital flows to all areas, and the 1970s when the increase of capital exports to Latin America was less intense than the increase of capital exports to the rest of the world.

As a whole, the U.S. private financing to Latin America during the first two and a half decades of the century represented about 0.17% of the U.S. GNP, or 25% of total U.S. private capital exports. After the Second World War those figures declined to 0.13% or 23% respectively. These results suggest that the share of Latin America in U.S. private external

investments for the period under study was rather similar to the share in British capital exports mentioned above. Finally, if the short lending boom of the late 1920s and the bust of U.S. external investments during the 1930s are taken into account, the overall share of Latin America increases to about 27%.

GRAPH 28



SOURCE
Stallings (1987)

Graph 29 offers additional information since it includes U.S. government loans to Latin America. These loans started in 1938 and became important after the war. It has to be noted that U.S. private portfolio capital flows to Latin America were negative since the early 1930s to the mid-1950s, and therefore it was due to private direct investment that U.S. capital exports to the region became positive after the war (Graph 28). Government loans came to

supplement the direct investment, and became the main source of U.S. financing during the 1960s when direct investment slackened and portfolio investments were still too weak. The better defined increasing trend of U.S. investments after 1945 in Graph 29 as compared with Graph 28 is explained by the contribution of government loans. Only the last four years of clearly increasing trend in both graphs are due to the renaissance of private portfolio investment.

GRAPH 29

SOURCE
Stallings (1987)

We now attempt a closer look to the foreign lending aspects of the period of Pax Britannica. We discuss the leading position of Great Britain between major creditors and review some outstanding characteristics of British foreign lending. In particular, we mention

developmental finance as a dominant aspect of British lending. Our intention is to highlight not only the share of Latin America as a borrower of British funds, but the importance of the region as a profitable customer, and for the implementation of developmental finance. Finally, we study the period of Pax Britannica from the perspective of Latin American borrowers. In the context of the long swings which characterized British foreign lending we examine the boom-and-bust cycles of external financing lived through by the Latin American clients.

B. The period of Pax Britannica

1. Great Britain as a leading capital exporter.

The United Kingdom stands out as the major international creditor before the First World War. While on average the United Kingdom invested abroad 4.5% of GNP during the period 1880-1914, the relevant figure for France was 2.5% and for Germany 1.8%.[4] The gross position of the United Kingdom and other international creditors, as well as the gross positions of main debtors on the eve of World War I, appear in Table 13.

Three quarters of gross credit were supplied by three countries only, though their respective contributions were far from uniform. Within this limited group of suppliers, while the United Kingdom provided 55 cents of each dollar, France contributed with 27 cents and Germany with 18 cents. However, the table indicates that the European continental economies as a whole reached a creditor position superior to that of the United Kingdom. On the debtors side, two groups are distinguished at first sight, with the two Americas lagging behind Asia, Africa and Oceania, and Europe.

TABLE 13

INTERNATIONAL CREDITORS AND DEBTORS
GROSS POSITIONS
1913

(Millions of US$ and %)

CREDITORS		%
Main Creditors	32.8	74.5
United Kingdom	18.0	40.9
France	9.0	20.4
Germany	5.8	13.2
Other Creditors	11.2	25.5
Belgium, Netherlands, Switzerland	5.5	12.5
United States	3.5	8.0
Other countries	2.2	5.0
TOTAL	44.0	100.0
DEBTORS		
Asia, Africa and Oceania	13.0	29.5
Europe	12.0	27.3
North America	10.5	23.9
United States	6.8	15.5
Canada	3.7	8.4
Latin America	8.5	19.3
TOTAL	44.0	100.0

Source: United Nations (1949)

Table 14 offers further illustration of how the three main creditors allocated their long-term investments. France and Germany concentrated their investments in Europe. In both cases, political considerations notably influenced the destination of foreign investments. The fact that one-third of German capital exports had been allocated in Austria-Hungary, Turkey and the Balkans was currently interpreted as an official scheme to strengthen the economies of potential military allies. In the French case, one-fourth of foreign investments were represented by Russian government bonds. Russia -the largest European borrower before

World War I- enjoyed a permanent access to the Paris capital market after the formation of the Alliance in 1891. In contrast with these experiences, the bulk of the British capital exports turned largely to regions of new settlement.[5]

TABLE 14
GEOGRAPHICAL DISTRIBUTION OF LONG-TERM INVESTMENTS
MAIN CREDITORS
1913

(PERCENTAGES)

	United Kingdom	France[a]	Germany[a]
EUROPE	6.4	61.1	53.2
Russia	2.9	25.1	7.7
Austria-Hungary	0.2	4.9	12.8
Spain-Portugal	0.7	8.7	7.2
Turkey	0.6	7.3	7.7
Balkan States	0.5	5.6	7.2
Rest of Europe	1.5	9.5	10.6
NORTH AMERICA	33.7	4.4[b]	15.7[b]
United States	20.0	3.5	13.0
Canada	13.7	0.9	2.7
LATIN AMERICA	20.1	13.3[b]	16.2[b]
Argentina	8.5	3.3	3.6
Brazil	3.9	5.8	9.0
Mexico	2.6	3.3	[c]
Rest of Latin America	5.1	0.9	3.6
AFRICA, ASIA AND OCEANIA	39.8	21.2	14.9
British Empire	33.6		
French Colonies		16.2[d]	
German Colonies			12.8
Other countries	6.2	4.9	2.1
TOTAL	100.0	100.0	100.0

SOURCES: FEIS (1974), pp. 23, 51, 74
a: Figures for 1914. b: Discriminated by countries according to Woodruff (1966), p. 154. c: Absence of detailed statistics. d: French colonies plus Egypt, Suez and South Africa.

In comparison with her competitors, dominion and colonial territories attracted an important portion of British investments. The Empire share in the British portfolio was nearly a half (47%), or one-third when Canada is excluded. Another difference was the percentage of investments placed in the Americas: when no account is taken of Canada, that figure is of 40% evenly distributed between the United States and Latin America. A final contrast can be mentioned about foreign investments in Latin America. It is shown how they were concentrated in the three major countries -Argentina, Brazil and Mexico-, regardless of the creditor country. However, the rhythm of investments in Latin America was not the same for each lender; while British investors kept a rather constant portion of 20% for Latin America at least since the 1850s, French and German interests in the region were more significant after 1900 (for instance, the Latin America's share in French portfolios increased from 7.1% in 1900 to 13.3% in 1913).[6]

2. Long swings in British foreign lending

The foregoing experiences of foreign lending were part of the unprecedented development of the international economy since the middle of the nineteenth century. International movements of the factors of production, labour and capital, built a bridge between the industrialized Western European economies and undeveloped overseas regions. There existed a contrast between the increasing productivity and growing population of the developed world, facing the restricted availability of regional resources, on the one hand, and the abundancy of natural resources in overseas areas of incipient settlement, on the other. Notable technological changes in transport and communications made easier the positively correlated emigration of labour and capital.[7] Institutional changes facilitated the international movements of factors of production and the configuration of a truly international economy. Mercantilist policies - notably trade barriers and navigation laws- still in vigor during the first half of the century were significantly loosened after 1850.[8]

Though the boom of foreign lending in the pre-World War I was fed by various Western European countries, the predominant role of Britain in the whole process may be emphasized for reasons different from the amount of capital exported. Private profitability was the guidance in the British case, rather than the achievement of national objectives, which in the case of France and Germany constituted an underlying motive for foreign lending. British investors sustained a process of developmental finance and integration of the center and the periphery. Developmental finance meant that a substantial portion of long-term investments were conveyed to railways and to public utilities related to the urbanization process.[9]

The predominance of developmental finance is illustrated by the fact that 40% of long-term investments was applied to the construction of railways, 20% to the provision of urban facilities, and 10% to the extractive industries -principally mines and oil- as seen in Table 15.

TABLE 15

BRITISH OVERSEAS INVESTMENTS
BY SECTORS
1913

	Millions of Pounds £	%
Government Bonds	1,125.0	29.9
Railways	1,531.0	40.6
Public Utilities	185.1	5.0
Commerce and Industry	208.5	5.5
Raw Materials	388.5	10.3
Banks and Finance	317.1	8.4
Miscellaneous	8.1	0.3
Total	3,763.1	100.0

Sources: Feis (1974) p. 27
Royal Institute (1937) p. 122

The fact that 30% was invested on government securities does not imply that loans were necessarily devoted to finance current budget deficits or nonproductive undertakings. Further on we will discuss Latin American experiences in which governments offered long-term securities in the London market for developmental purposes.

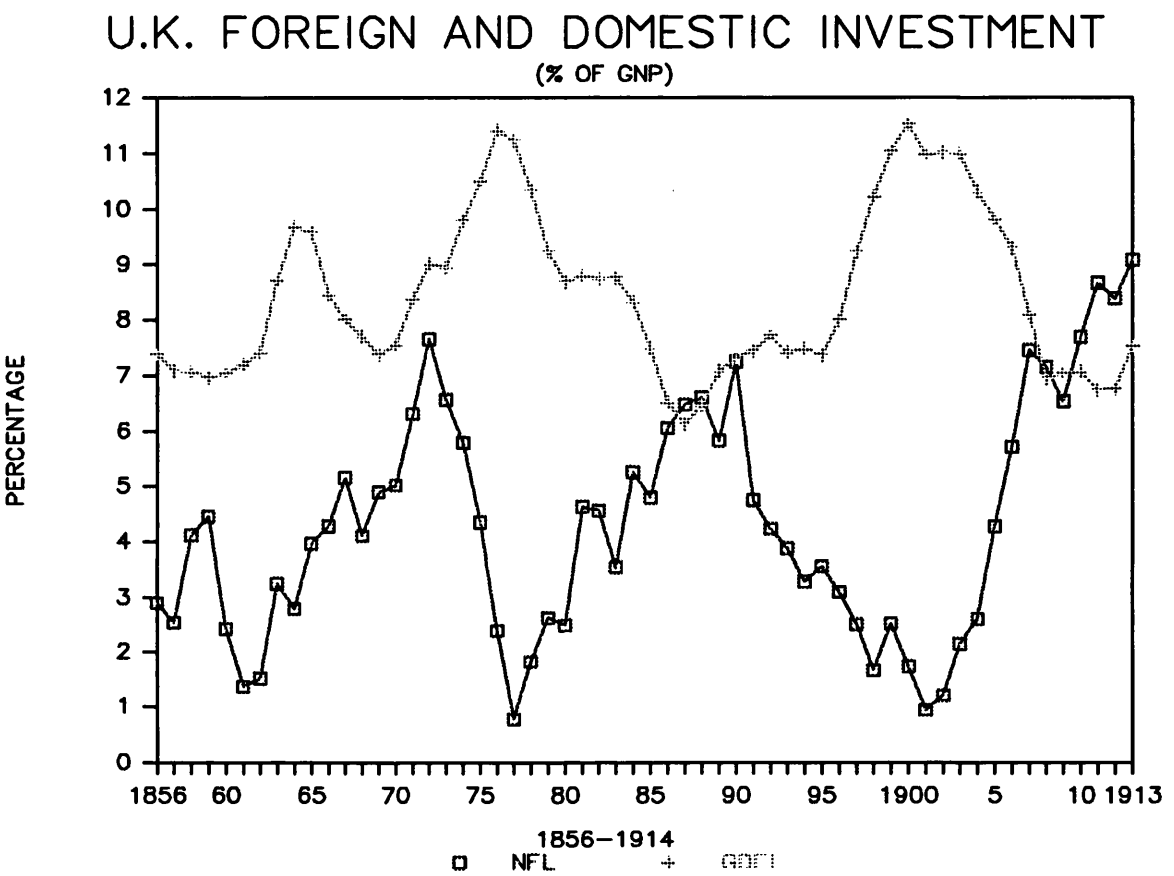
Two outstanding characteristics of the British experience were also clear constrasts with developments in continental capital-exporting countries. First, foreign investments followed a pattern of long swings between 1856 and 1914. And second, British foreign and domestic investments moved in opposite directions over the same period. These characteristics contribute to explain the exceptional magnitudes of British foreign lending during the period and the interplay between center and periphery during the Pax Britannica. Our first illustration of long-swings in British foreign investments was given in Graph 25 above. A similar shape is obtained when instead of cycles around a deterministic trend, it is the path of the ratio of net foreign investment (NFI) to GNP which is depicted.[10] This path as well as the trajectory of the gross domestic fixed investment (GDFI) as a percent of GNP are shown in Graph 30.

The inverse long-swing motion of the two lines, firstly analyzed by Cairncross (1953), brings out periods during which markedly increasing ratios of foreign investment were accompanied by declining ratios of domestic investment, such as 1878-1887 and after 1903, and periods of expanding ratios of domestic investment paralleled by stagnating ratios of foreign investment such as 1870-1877 and 1890-1900. Analysts after Cairncross have dismissed a causal mechanism of the long swings, and described, instead, a "complex set" of interrelationships between centre and periphery behind the long swings of British national investment flows.[11]

Not only the home and overseas investment flows but also the realized rates of return on those investments were subject to inverse long swings.[12] Edelstein (1982) found that for the period 1870-1913 as a whole, British foreign investments realized a higher average rate of return than domestic investments. In this sense, foreign investment paid. The same author

shows that overseas rates of return dominated during the periods 1877-1886 and 1897-1909, which alternated with periods of home rates of return dominance.

GRAPH 30



SOURCES
Edelstein (1982)

Latin America played a key role for the dominance of foreign returns. During the 1877-1886 period the realized returns on Latin American investments in banking, railways and social overhead equity placements outstripped those obtained on other overseas regions. While equity investments on Latin American railways yielded an average return of 18.7%, the figure for the U.S. railways was 11.5%, and 5.2% for British domestic railways (Edelstein, 1982). Once again, during the long period of overseas dominance, 1897-1909, Latin

American equity and bonds performance was critical, but this time under the lead of U.S. railway investments.[13]

A closer look to the Latin American experience during the Pax Britannica can be obtained by examining the fate of the continent in the long swings of British capital exports just reviewed. An important precedent not mentioned so far was the boom-and-bust cycle of British external investment during the 1820s, in which Latin America, and Colombia in particular reached an important share. We discuss these facts next.

3. British capital in Latin America.

a. The boom-and-bust cycle of the 1820s.

The prosperity reached in the mid-1820s has been recognized as "the first truly modern cyclical boom in British economic history".[14] Easy money policies fostered a general fall in interest rates and expanded bank lending.[15] The index of share prices grew steadily during the first years of the boom (1821-1822), and at a greater pace since 1824 led by mining prices. In fact, the index rose about 120% between October 1824 and January 1825, contrasting with an increase of 20% during the four previous years. The index then collapsed, falling about 110% during the rest of the year, and other 30% during the first three quarters of 1826.

What was the scale and scope of private investment behind the Stock-Exchange boom? And what was the Latin American involvement in this historical experience? Figures about joint-stock companies are eloquent. While 156 companies with a capital of £48 million existed before 1824, 127 with a capital of £103 million were founded in 1824-25 and still existed in 1827 after an avalanche of bankruptcies. It is significant that out of more than £15 million paid on the shares of the 127 surviving companies, about £4 million were advanced on the shares of companies -mostly mining companies- formed to operate in Latin America. Private

investment in foreign government bonds played a crucial role in the stock market boom. Loans contracted in London increased from £1.5 million in 1821 to £16 million in 1822-23 and finally to £27.5 million in 1824-25. Approximately 75% of the nominal contracts, namely £33 million were paid-in by British investors. Latin America secured nearly one half of the nominal contracts as seen in Table 16.[16]

TABLE 16

BRITISH LOANS TO FOREIGN GOVERNMENTS
CONTRACTUAL AMOUNTS
1822-1825

(THOUSANDS OF POUNDS)

	(£ 000)	%
EUROPE	23,300	53.4
AUSTRIA	2,500	5.7
DENMARK	5,500	12.6
GREECE	2,800	6.4
NAPLES	2,500	5.7
PORTUGAL	1,500	3.4
PRUSSIA	3,500	8.0
RUSSIA	3,500	8.0
SPAIN	1,500	3.4
LATIN AMERICA	20,329	46.6
BRAZIL	3,200	7.3
ARGENTINA	1,000	2.3
CHILE	1,000	2.3
GRAN COLOMBIA	6,750	15.5
CENTRAL AMERICA	163	0.4
MEXICO	6,400	14.7
PERU	1,816	4.2
TOTAL	43,629	100.0

SOURCES. Gayer, Rostow and Schwartz (1953) p.189
Rippy (1959) p.20

Parallel developments in foreign trade accompanied the stock market boom. As internal investment developed, higher imports of staple commodities were required. And on the export side, foreign investments fed an unprecedented expansion of real domestic exports. The Latin American economies constituted the driving markets for British exports during the period 1821-25. In fact, while during these years British exports to the Continent -by far the largest export market representing about 45% of total exports- showed a slight decline, exports to Latin America doubled; in 1821 shipments to Latin America were equivalent to 18% of the British sales to the Continent, and at its peak in 1825 the comparable figure was 45%.

The boom in the Stock Exchange and in foreign trade was accompanied by speculative manoeuvres. Private banks in London and provincial banks which had financed the bull phase in security markets, found it difficult to preserve their liquidity positions. The bullion reserves of the Bank of England practically vanished when holders of private bank notes demanded their redemption. A financial crisis was evident in December 1825 and the Bank sought to reduce the magnitude of unprecedented bankruptcies by authorizing extraordinary rediscounts. The crisis spread across national borders affecting mercantile transactions and banking operations in the Continent during the next two years (Kindleberger, 1989). But the most striking and adverse results endangered the financial relationships between Britain and the Latin American economies. With the banking crisis of December 1825-January 1826 the lending and foreign trade booms came precipitously to a halt. The fact is that London bankers had been not only broker-dealers of foreign government loans but their interests had covered a wide range of trade operations (shipments, import contracts) and mining investments.

Bankers lived through the commercial and banking panic of 1825 without distress from their investments on Latin American government bonds, owing to the short-term sinking funds - one-and-a-half year of interests and amortizations- created with the purpose of helping peg the market. However, the drying up of external loans which followed the short-lived and unprecedented lending boom suddenly strained the weak finances of the Latin American

states. Besides, the suspension of investments in mining and other private projects frustrated initiatives in which British capital, technology and labour had just recently been involved. To close this picture, external trade collapsed -British exports fell by 50% between 1825 and 1826- and a timid reanimation towards the end of the decade was due to the particularly favourable position of Brazil as source of staple commodities required by Britain.[17]

What followed was a series of bankruptcies of private projects and a sequence of sovereign defaults which involved all but one of the debtor-States, the only one which enjoyed a privileged trade position, Brazil. Sovereign defaults set off in 1826-27 after the exhaustion of short-term sinking funds and deposits of the states in London private banks. Government bonds quotations collapsed after peaking in 1824-25 and remained depressed there after until renegotiations in the following years or decades revived the prospects of repayment (Dawson, 1990, Appendix 1).

What was Colombia's share in the lending boom, and what her fate after the financial crisis? Colombia, then Gran Colombia formed by the present-day nations of Colombia, Ecuador and Venezuela, was the first Latin American country who received a loan -£2 million- from private bankers in London at the beginning of the boom in 1822. Later, in 1824, Gran Colombia negotiated a loan for £4.75 million, the largest one received by a Latin American country, and the second largest -after Denmark- contracted by any country during 1821-1825. The two loan operations were strongly dominated by the necessity of consolidating the independence from Spain.[18] Gran Colombia's accumulated debts were, then, typical war debts. Reasons of international politics facilitated the access to external financing; in fact, Britain formally recognized the independence of the new Latin American states in 1824 when the final military campaigns were still in process.[19]

In 1832 Gran Colombia was split up into the three modern-day separate Republics, and in 1834 the total external debt of £9.8 million of which £3.2 million were interest arrears was apportioned between the new states; Colombia was left with 50% of the total debt, Venezuela

with 28% and Ecuador with 22%. This apportionement of debt responsibilities was followed by a complete default of interest payments till 1841 when Venezuela signed a settlement with her creditors. Colombia followed suit in 1845, and Ecuador did the same but only until 1855.[20]

A general conclusion is in order before turning to the discussion of the Latin America's share in the long swings of British capital exports. The international loan boom and subsequent debt crisis was closely linked to the cyclical boom in Great Britain. A financial innovation at the center -the expansion of provincial and private banks-, reinforced by easy money policies, increased the availability of funds for domestic and potential foreign lending. The political independence of Latin American Republics opened up a new field for foreign investments. The cycle came to a halt when a financial crisis at the center in 1825 stemmed domestic credit and the outflow of capital. Since not only external finance but international trade were curtailed, sovereign default spread through Latin America since mid-1826. Only one debtor (Brazil), with a privileged trade position, could fulfil regular debt payments.

b. The Latin America's share in the long swings of British overseas lending.

Large-scale British investment in Latin America was resumed during the 1860s. In 1865, foreign government debt amounted to about £62 million, three times the stock accumulated before the crisis of 1825, which exceeded £20 million. But neither the increased debt corresponded to a similar increase of new loans, nor was it evenly distributed over the four decades. No more than 65% of the enlarged debt -£26 million- corresponded to 'fresh' loans, the rest being made up by debt conversions and capitalizations of interest arrears. As for temporal distribution, less than 10% of the new loans were contracted between 1825 and 1850, 25% during the 1850s, and over 65% from 1860 to 1865. Foreign investment in private projects -mainly mines and railways- also revived in the 1860s; 50% of the companies formed between 1845 and 1865 were established between 1860 and 1865. (Stone, 1968)

British investments in Latin America grew continuously between 1865 and 1914. According to data due to Rippy (1959) and Stone (1968) the stock of investments accumulated in 1914 was fourteen times the level reached in 1865. This upsurge was characterized by sharp fluctuations rather than by a smooth growth rate, as we saw in our previous discussion of the cycles of British foreign investment (Graph 25). As noted above, during the periods 1870-75, 1885-95 and 1905-13, investments in Latin America grew at a rate higher than their historical rate. A similar idea is conveyed by the estimates offered in Tables 17 and 18 based on Stone (1968). Table 18 duplicates the format of Table 15 above, and Table 17 discriminates investments according to individual countries.

Investments in foreign government bonds (hereinafter government loans) constituted about 75% of total investments during the four intervening decades between the financial crash of 1825 and the resurgence of capital exports in the 1860s.[21] This absolute preponderance shrank during the period down to World War I, particularly through the years 1885-1895, and 1905-1913. By 1913 government loans represented less than 40% of total investments, although still representing the leading individual investment. Private investments as a whole outstripped government debt since the decade 1885-1895 under the indisputable predominance of the railway industry, and later owing to the attractiveness of public utilities -mainly tramways- when railways investments stagnated. This evidence suggests that British investments in Latin America followed the general pattern of declining share of government loans and enlarging share of investments in developmental finance. As seen in Table 18, in 1913, 62% of British investments had been placed on private undertakings, contrasting with 1875 when the comparable figure was 26%.[22]

As shown in Table 17 the governments of Mexico, Brazil and Colombia were the main debtors in 1865.[23] The Colombian debt stock comprised a series of conversions of her reapportioned debt (Note 20) and a small credit (1863) for £0.2 million mainly (90%) destined to refinancing purposes. Other important debtor was Venezuela who similarly to Colombia enlarged her original obligations with a sequence of conversions, and two

TABLE 17

BRITISH INVESTMENT IN LATIN AMERICA
GEOGRAPHICAL DISTRIBUTION
1865 - 1913

(MILLIONS OF POUNDS)

	1865			1875			1885			1895			1905			1913		
COUNTRY	Government Loans	Private Investment	Total	Government Loans	Private Investment	Total	Government Loans	Private Investment	Total	Government Loans	Private Investment	Total	Government Loans	Private Investment	Total	Government Loans	Private Investment	Total
Argentina	2.2	0.5	2.7	16.5	6.1	22.6	26.7	19.3	46	90.6	100.3	190.9	101	152.6	253.6	184.6	295.2	479.8
Brazil	13	7.3	20.3	20.4	10.5	30.9	23.2	24.4	47.6	52.4	40.6	93	83.3	41.1	124.4	119.6	135.2	254.8
Chile	2.3	0.9	3.2	8.3	1.7	10	7.6	2.5	10.1	13.7	18.7	32.4	17.6	24.5	42.1	35.8	40.3	76.1
Colombia	7.3	0.1	7.4	2.1	1.3	3.4	1.9	1.8	3.7	1.9	2.3	4.2	2.7	4.9	7.6	3.8	9.1	12.9
Cuba	0.5	2.5	3	0	1.6	1.6	15.5	1.4	16.9	31.8	3.4	35.2	7.2	14.4	21.6	9.9	36	45.9
Ecuador	1.8	0	1.8	1.8	0	1.8	1.8	0.3	2.1	0.7	0	0.7	0.1	2.8	2.9	0.3	3.9	4.2
Mexico	23.6	2	25.6	23.5	4.9	28.4	25.1	15.7	40.8	35.4	58.2	93.6	57.8	61.7	119.5	45.5	86.6	132.1
Peru	3.7	0.2	3.9	33.5	2.7	36.2	31.8	4.8	36.6	0	22.3	22.3	0	22.5	22.5	1.3	28.4	29.7
Uruguay	1	0.1	1.1	3.3	2.9	6.2	11.1	4.9	16	20.4	13.2	33.6	21.7	17.5	39.2	26.1	21.2	47.3
Venezuela	6.2	0.2	6.4	6.8	0.6	7.4	4	4.1	8.1	2.6	7.1	9.7	5.1	4.5	9.6	4.1	5.7	9.8
Central America	0.1	0	0.1	9.2	0.2	9.4	8.6	0.4	9	11.1	3.7	14.8	9.2	5.9	15.1	11.1	15.1	26.2
Bolivia-Paraguay	0	0	0	3.2	0	3.2	3.2	0.1	3.3	0.8	3.4	4.2	0.9	3.1	4	0.7	5.4	6.1
Other Areas*	0	0.4	0.4	0.7	0.5	1.2	0.7	0.4	1.1	0.9	0.7	1.6	1.1	2.1	3.2	2.7	2	4.7
Other**	0	5	5	0	12.3	12.3	0	9.3	9.3	0	16.2	16.2	0	23.1	23.1	0	50.4	50.4
TOTAL	61.7	19.2	80.9	129.3	45.3	174.6	161.1	89.4	250.5	262.3	290.1	552.4	307.7	380.7	688.4	445.5	734.5	1180

*European Colonies on the mainland of South America, Puerto Rico, and Santo Domingo
**Banks and discount companies, shipping and other joint-stock companies that operated primarily across national boundaries.
SOURCES:
For Government Loans, Stone (1968). For TOTALS of Investments, Stone (1968)

TABLE 18
BRITISH INVESTMENTS IN LATIN AMERICA

SECTORAL DISTRIBUTION

PERIOD 1865-1913

SELECTED DATES

(£ MILLIONS AND PERCENTAGES)

	1865	%	1875	%	1885	%	1895	%	1905	%	1913	%
Government loans	61.7	76.3	129.3	74.1	161.1	64.3	262.3	47.5	307.7	44.7	445.5	37.8
Private Investment	19.2	23.7	45.3	25.9	89.4	35.7	290.1	52.5	380.7	55.3	734.5	62.2
Railways	9.7	12	24.1	13.8	55.2	22	199.9	36.2	237.3	34.5	404.5	34.3
Public Utilities	0.8	0.9	8.5	4.9	10.5	4.2	17.8	3.2	40.2	5.8	139.1	11.8
Banks-Finance	2	2.5	3.3	1.9	4.2	1.7	39.4	7.1	50.9	7.4	94.4	8
Raw Materials	2.8	3.5	2.5	1.4	7.8	3.1	18.2	3.3	27.7	4	38.2	3.2
Commerce-Industry	1	1.2	2.1	1.2	4.8	1.9	11.4	2.1	18.6	2.7	37.5	3.1
Shipping Co	2.9	3.6	4.8	2.7	3	1.2	3.4	0.6	6	0.9	18.3	1.6
Undistributed					3.9	1.6					2.5	0.2
TOTAL	80.9	100	174.6	100	250.5	100	552.4	100	688.4	100	1180	100

SOURCES:
STONE (1968)

flotations in the London market (in 1862 and 1864 for a total of £2.5 million), also predominantly orientated (70%) to refinancing purposes. To complete the picture, it has to be mentioned that Brazil, Chile and Cuba were the only countries in the region which managed to get 'fresh' loans from British investors during the 1850s.[24]

i) 1865-1875

Important changes in international markets -capital and commodities- are screened by the figures for the period 1865-1875 in Table 17. The first long swing of British foreign investments stands out in the background. Prospects of profitable investments in the United States -accelerated urbanization-, and Europe -French and Russian railways- since the 1850s, and the onset of developmental projects in Latin America during the late 1860s, all contributed to the upward trend of British investments abroad.[25] As discussed above, the long swing was not exempt of reversals and contractions. A non-trivial setback hit capital markets in 1866 after the outbreak of the Prussian-Austrian war, and the crash of the Overend Gurney Company in London.[26] Simon (1967) showed that between 1865 and 1867 total capital calls by British investors fell about 57%, the comparable percentage for South American capital calls being 71%. According to the same estimates, South American capital calls dropped to minimum levels in 1868-1869, and a general recovery of portfolio foreign investment was not felt until 1870.

More significant for its world-wide repercussions was the crisis of 1873. The most dramatic episode on the financial side of the crisis was the stock market collapse in Vienna. An euphoric speculation process had taken place since 1871 with the Franco-Prussian indemnity payments, which occasioned an unprecedented movement of gold from France to Germany via London. Speculation spanned from European to flourishing U.S. railway securities, and when stock markets collapsed in Vienna and Berlin, new lending to the U.S. projects was cut off, and well-known companies involved in railroad building -such as Jay Cooke and Co. in New York- went bankrupt. In 1870, 42% of the world's railroad mileage had been established

in North America, and the misfortune of important builders became a new reason for the retreat of foreign investors.[27] According to Simon's estimates total annual capital calls sharply declined along the period 1873-1877, the estimates for 1875 and 1877 being 51% and 80% lower than the estimate for 1872. The South American set back is illustrated by the fact that money calls amounted to £21.4 million in 1871 and 1872, and to only £8 million in 1873, before declining gradually to £0.6 million in 1877.

One of the sequels of the crisis of 1873 was an extended default on sovereign debt. Turkey, the largest debtor, defaulted by the end of 1875.[28] In Latin America, the fate of different countries was tied to the fortunes of their external trade. Countries such as Argentina, Chile and Brazil, who enjoyed a favourable position in British imports within the region, endured the anaemic foreign lending of the time without suspending their debt service. In 1865 only one borrower government -Venezuela- had stopped payments on most of its obligations. By contrast, in 1875, 9 out of 15 Latin American borrower governments were in default, and the amount of principals involved represented 35% of total British held Latin American government debt. By the end of this year, government debts in default worldwide represented approximately 30% of the aggregate value of British capital invested abroad (Stone, 1968)

The individual experience of Latin American countries during 1865-1875 starts with the suspension of payments by Mexico in 1866, a moratorium which would last for two decades. As suggested by the previous description of money calls in the region, the largest loans were contracted between 1870 and 1872. Argentina -National government and Provinces- floated 20% of the loans negotiated during the decade, most of them aimed to finance public works, though also military operations (the participation of Argentina in the Paraguayan war). Backed by her strong commercial relations, Brazil managed to sell a significant loan in the midst of the financial crisis (1875). In a smaller proportion, Chile also marketed securities during the years of major lending stringency. A different experience was lived through by the smaller nations in the area. Central America, and Bolivia and Paraguay, sold issues whose amount though being just smaller than that marketed by Argentina, had a completely

different fate. Representatives of investors and contemporary analysts denounced the speculative excesses and loan-push manipulations of merchant bankers in the case of these loans. By the end of 1875, the smaller Latin American states were in default.[29]

The most striking case of large borrowing during the pre-crisis years followed by failure to meet the debt service was protagonized by Peru. In fact, 45% of the flow of resources chanelled to Latin America during 1865-75 went to finance developmental projects in Peru, principally railways. Peruvian prospects were enhanced by the availability of marketable exports -cotton, sugar, and nitrates-, but crucially by the natural monopoly of guano, a fertilizer highly demanded by European farmers. A marked decline of guano exports after 1873 triggered internal financial instability and left the economy on the verge of failing to meet the external debt service. An international intermediary -the Dreyfus Frères of Paris- was granted the concession of guano commercial explotation in exchange for the repayment of the external debt. In 1875 this institution declared its inability to fulfill its obligation given gloomy prospects of guano exports. A formal suspension of debt service was not announced until the beginning of 1876.[30]

What happened to the rest of Andean countries? Even before the crisis a complete default took place in the cases of Venezuela (1867) and Ecuador (1868). As for Colombia, Table 17 shows a reduction of the stock of debt from £7.3 million to £2.1 million. No loan was marketed during the period, and in 1873 the stock of debt had been reduced, by means of amortization payments and buybacks in the London market, to £6.6 million. By mutual agreement signed during the same year, this amount of debt was converted into a new debt of £2.0 million.[31]

ii) 1875-1895

These two decades are dominated by a new long swing of British capital exports which starts in the late 1870s, reaches its peak in the late 1880s, and then fades away during the first half

of the 1890s. During the expansion phase of the long swing, 1878-90, capital calls were far from evenly distributed. Nearly 40% of the total calls was concentrated on the last three years, 1888-90. The Latin American calls were even more concentrated, with around 55% of the calls for the period during 1888-90. Over the whole period, the Latin American share in total calls was 21%, enlarged to 29% when only the years 1888-90 are considered. During the contractionary phase, 1891-1901, the Latin American participation in total calls declined substantially to only 10%. This diminished access of Latin America to the anaemic international lending of the 1890s followed the collapse of the London firm Baring Brothers.[32]

Argentina was the third largest borrower from Britain during the 1880s, after the United States and Australia. Within the Latin American region, Argentina, Mexico and Brazil, in that order, were the main beneficiaries of British investments during the 1875-1895 period. These countries concentrated 78% of total investments in the region during the period -89% of government loans and 73% of direct investments-. Argentina by far outstripped her main competitors, monopolizing 45% of total investments in the region, while Mexico and Brazil achieved smaller and similar shares, 17% and 16% correspondingly.

Furthermore, in 1895, private investment represented more than half of British investments in Mexico and Argentina, leading a general trend in Latin America, while government loans still predominated in Brazil. As mentioned above, the decisive reason behind this trend, was the formidable upsurge in railway investments during the 1875-95 period (Table 18). And although Argentina, Mexico and Brazil secured 85% of that extraordinary increase, the individual share of Brazil was only 15% (Stone, 1968)

The South Cone and the Rio de la Plata regions -Argentina, Chile, Uruguay-, attracted 58% of the British investments during the period. In sharp contrast, the North Andean countries -Colombia, Ecuador, Peru and Venezuela-, as a whole, not only did not attract new investments but experienced a reduction of the stocks existing in 1875. Investments in Peru,

the major Latin American capital importer during the 1870s, fell 40% during the period. Ecuador, together with Bolivia and Paraguay one of the countries with the lowest British investments in South America, also went through a curtailment of previous investments. These experiences did not mean that the countries involved became net capital exporters. Instead, they reflected bilateral arrangements to reduce the outstanding debt balances. For instance, in the Peruvian case the government debt was not only reduced but transformed into private investment, as seen in Table 17; as a result of this conversion, known as the Grace Contract (1890), British investors were given the posession of all state railways and various concessions.[33]

As mentioned before, the Baring crisis (November 1890) marked the end of the financial frenzy of the late 1880s. Historians have described a state of financial distress since at least 1888, and the critical role of Argentinian loans. The process can be summarized as follows. Sales of Argentinian bonds by German investors -probably induced by uncertain economic and political prospects of Argentina-, loaded the London market. Fresh loans to Argentina were contracted at increasing discounts, and even some offerings failed. To alleviate the situation, Baring offered short-term credits to Argentina, which eventually could not be met as they came due, owing to the deteriorating trade conditions of the country.

Stoppage of capital inflows since 1889, combined with terms of trade deterioration created a debt service transfer problem. Baring found itself with unsold securities -mainly Argentinian bonds-, and restricted access to short-term borrowing. The London market became tougher when Baring was warned by the Bank of England not to exceed its short-term lending to Argentina. When the Baring's position became unsustainable, a major financial crisis was avoided by immediate intervention of the British government and the Bank of England. Baring's liabilities were guaranteed but the repercussions on international lending could not be averted (Kindleberger, 1989. Fishlow, 1989 a,b).

Foreign lending ebbed in the early 1890s reaching a bottom in 1893. British foreign investments during 1891-1893 were just 35% of the amounts invested in 1888-1890. Latin America was the main but not the only casualty of the credit crunch, the comparable figure having been 20%, while the percentages for Europe and North America were 28% and 37% respectively. Even the British Empire as a whole had to bear a significant credit restriction of 60%.[34] As noted before, a weak recovery of foreign lending started in 1894, but a new upswing of foreign investment would not take place until the first-half decade of the new century.

During the expansion phase of the 1875-1895 period, various Latin American countries which had defaulted before or as a result of the 1873 crisis, concluded agreements with British bondholders aimed to restablish access to new external credit. As a result of these agreements, only four countries -Argentina, Colombia, Costa Rica and Honduras- responsible for 16% of the Latin American external debt, were in default. This situation contrasted with the more gloomy scene of nine defaulter countries representing 35% of the external debt of the region two decades earlier (Stone, 1968). Two important agreements in the context of defaulting countries were those negotiated by Peru on the basis mentioned above, and by Mexico (1886) which proposed a new arrangement to its creditors after two decades of suspended debt service. The Mexican negotiation and further redemption of the debt represented a reduction equivalent to 75% of the original external debt.[35]

The two main beneficiaries of government loans during the 1880s -Argentina and Brazil-, experienced the major difficulties with debt servicing in the 1890s. Argentina after the Baring crisis, and Brazil at the end of the decade, faced debt service transfer problems. Both countries were unable to meet their debt payments, and as a result, unprecedented agreements with creditors took place. There was a sharp contrast between the treatment of defaults in the Near East and the treatment given to Argentina and Brazil. Instead of the debt relief option applied in the cases of Turkey and Egypt, agreements were based upon flexibility on the creditors side and willingness to pay on the debtors side. More precisely, conditionality terms

and the conciliatory role of financial intermediaries between lenders and borrowers applied, instead of military intervention or direct control of fiscal sources as it happened in the Near East.

The Argentinian and Brazilian experiences of the 1890s constitute an important precedent for our discussion of negotiation processes during the 20th century. The Argentinian agreement (1893), considerably reduced the burden of the debt service for a fixed period of time: amortizations were suspended for eight years, and interest remittances were reduced by about 30% during five years. The center piece of the Brazilian arrangement (1898) was the granting of a funding loan enough to cover three years of interest, and the suspension of amortization payments for thirteen years.

The borrowers' counterpart in these agreements was a stringent reduction of aggregate demand by means of higher taxation and compression of public expenditure. The reason for these deflationary policies was that not only external shocks -the rationing of external loans in the case of Argentina, and the falling coffee prices in the case of Brasil- contributed to the inability of these countries to meet their debt repayments. In Argentina since the mid-1880s, and in Brazil since the early-1890s, expansionary monetary and fiscal policies had been pushing up the price of gold in terms of inconvertible national currencies. As a result, higher gold premia became a factor of an increasingly costly external debt. The adjustment burden would be gradually smoothed by the favourable trend of international trade at the turn of the century. Brazil, in particular, would not endure more than four years of hardship; a new cycle of growing international coffee prices would invigorate the economy from 1903 down to World War I (Fishlow, 1989 a,b).

iii) 1895-1913

A massive outflow of British capital characterized the period from 1905 to 1913, leaving behind fifteen years of anaemic foreign lending. The annual average of capital calls jumped

from £74 million during the 1896-1904 period to £160 million during the years from 1905 to 1913. The importance of this last period is underlined by the fact that capital exports represented 37% of the total exported between 1865 and 1913. The Americas were the main beneficiaries of the last British foreign investment boom before World War I, with 62% of the capital calls. The North -including Canada-, with 42% of the calls, clearly outstripped the South with the remaining 20%. Considering the political status of the borrowers, 61% of capital calls were placed in independent countries, and 39% in the British Empire.

The upswing of capital exports initiated in the 1900s is reflected again in the inverse long-swing motion of overseas and domestic investments (Graph 30). Foreign investment as a ratio of GNP vigorously increased since its last trough in 1901 to its final peak in 1913, excepting the years 1906-1907 when London substantially reduced foreign lending after the distress created in the Continent by the collapse of stock markets in Italy (Kindleberger, 1989). At the turn of the century British investors were exporting an amount of capital equivalent to 1% of GNP; by 1905 the comparable figure was 4% and at its height in 1913, the relevant percentage was 9.1.

Students of the period have found a mixture of overseas and domestic forces behind the reported massive capital outflow. Overseas pull factors such as unprecedented mining opportunities in South Africa, and population- sensitive investments in major food suppliers to Great Britain such as Argentina, attracted the interest of foreign investors (Paish, 1914). These overseas accumulation pressures coincided with contracting domestic investment opportunities. And though declining opportunities at home had been felt since the early 1870s, they became more influential on investors' decisions in the two decades before World War I. Right across the industrial and transportation sectors home returns were weaker than overseas returns, and investors found this dominance stronger and more prolonged during the 1900s than it had been during the mid-1870s to mid-1880s (Edelstein, 1982)

According to Table 17, Argentina, Brazil and Mexico, in that order, captured most of the interest of British investors during the period under discussion. Three-quarters of the stock of total investments in Latin America in 1913 were placed in these countries -78% of government loans and 71% of private investments-. These estimates show that the tendency to allocate investments in the three countries became more accentuated between 1895 and 1913. In 1895 these countries appeared to be controlling 68% of total investments, while the comparable figure for 1875 had been 47%. The geographical concentration is also illustrated by the distribution of the British railway portfolio. In 1913 railways accounted for more than a half of private investments, and more than one-third of total investments (Table 18). Argentine railway securities represented 54% of total investments in the field, well ahead of Brazil (15%) and Mexico (8%); altogether, the three countries gathered 77% of the most dynamic an profitable investment of the time.

c. Conclusions

The Latin American share in the long swings of British capital exports was to a great extent represented by investments in Argentina, Brazil and Mexico. Colombia barely acceded to the distribution of British foreign investments. A stylized version of the capital export cycles can be as follows: The upswing is associated with prospects of profitable investment in the periphery (as in the case of railways). The end of the upswing is frequently related to financial crises at the center which cut back the financing of projects at the periphery (e.g. the 1873 crisis). Also policies adopted in the periphery can upset creditors' attraction towards foreign investment and precipitate a retrenchment of external financing (such as in the Baring crisis of 1890). The situation is made worse if a simultaneous deterioration of terms of trade in the periphery increases the debt burden. Sovereign default is a likely outcome, and foreign capital markets stagnate. Debt settlements follow ranging from military intervention and direct control of fiscal sources (the experiences of Turkey and Egypt), to negotiated reductions of debt principals (the Mexican solution in the 1880s), and to conciliatory

approaches based on flexibility on the creditors side and willingness to pay on the debtors side (the Brasilian and Argentinian cases in the 1890s).

The two great lending booms of the 20th century (1920s and 1970s) reproduce characteristic elements of this stylized description. The remainder of this section explores the boom-and-bust cycle of the 1920s.

C. From the Pax Britannica to the Pax Americana.

The massive outflow of British capital during the first decade and a half of this century came to a halt with the outbreak of World War I. It was also the end of the Pax Britannica. A new lending boom developed a decade later prompted by the urgency of financing the reconstruction of Europe, this time under the auspices of the Pax Americana. This lending boom, previously depicted in graphs 26 and 27 reproduced characteristics already found in the long swings of British foreign investments. The boom of U.S. private capital exports was linked to the financing of the European reconstruction and the rise of New York to a predominant position as foreign financial center. The wave of U.S. direct investments and loans went beyond the European boundaries, and South America was one of the major recipients of external funds. The extraordinary U.S. capital outflows came to an end with the stock market boom in 1928. Later, with the onset of the Great Depression, the debt servicing capabilities of most borrowers were adversely affected, and the prospects of a recovery of international lending vanished as sovereign default became a world-wide phenomenon.

In this subsection we discuss the conversion of the United States into a creditor nation, the dominant role secured by New York as a financial center, and the distribution of U.S. investments with particular emphasis in South America.

1. The United States: from debtor to creditor Nation [36]

After the outbreak of World War I, international lending passed through successive phases characterized by different sources of financing. During the first phase -January 1915 to April 1917-, international lending was based on the U.S. private capital markets. Borrowing by the Allies in the United States mounted as growing purchases of munitions and foodstuffs were required.The scale of this borrowing is illustrated by the fact that 97% of the total U.S. loans during the period were placed on the allied countries. Only 2% went to Latin America. Most loans -90%- to the Allies were on a short-term basis, and given the political context of the time, on very liberal terms.[37]

The second phase -April 1917-May 1922- was characterized by the implementation of the Liberty Loan Acts according to which the U.S. government was authorized to purchase foreign obligations of the allied governments. Loans were authorized for a maximum amount of US$10 billion, and on even more liberal terms than the private credits of the previous phase, namely, par prices in all loans and interest rates just enough to repay domestic investors. International U.S. private lending was substantially reduced while this country was at war, and even strictly controlled during the last few months of the conflict. At the end of the period, the actual loans under the Liberty Loan Acts nearly matched the authorized amount. Out of a total of US$9.4 billion the two main Allies, Great Britain and France, received 44% and 31% correspondingly.[38]

With the cessation of hostilities, negotiations orientated to convert the whole set of war obligations with the United States into long-term debts, culminated in an agreement according to which interests accrued down to the date of settlement were scaled down and added to the principal to be converted. The new long-term debt, over a 62-year payment period, amounted to US$11.7 billion of which 15% represented funded interest. Apart from the conversion itself, and the reschedule of a short-term debt into such a long-term loan, the agreement left important precedents for future foreign debt negotiations. In particular, the principle of "capacity to pay" was recognized and the war debtors benefited from it.[39]

The final phase (1922-29) was marked by the revival and upsurge of U.S. private lending.[40] Although an upward trend of U.S. lending was observed since 1922-24, the League of Nations' loans and particularly the Dawes loan played a crucial role in the upswing of foreign lending during the 1920s.[41] As with the Liberty Loan Acts credits, the Dawes loan linked U.S. private investors with the European reconstruction. Under the Liberty Loans Acts there existed an indirect link by which the U.S. government purchases of foreign government securities were financed by selling corresponding amounts of dollar-denominated bonds in the internal capital market. The Dawes Loan not only established a direct link, but enriched the radius of portfolio investment opportunities. What has to be underlined here is that the internationalization of U.S. private investments would go beyond the German and European boundaries forming unprecedented waves of lending which would ultimately spread to Latin America, Australia and Japan, as we will describe below.[42]

Table 19 summarizes the transition process (1914-29) of the United States from debtor to creditor nation. The debtor condition by 1914 is revealed by the negative sign preceding the net value of assets. Five years later the creditor condition on private account was explained not only by increased assets -direct investments and loans to the allied governments-, but also by the liquidation of assets owned by foreign investors and repatriation of securities during the war.[43] The private creditor condition of the nation was reinforced by the government loans extended under the Liberty Loan Acts. Later, in 1924, the balancesheet showed the revival of private lending and the funding of European government debts. Lastly, the private lending boom of the late 1920s is revealed in the unprecedented increase of private assets registered in the 1929 balancesheet. It can also be seen how the U.S. government ceased to be a foreign lender once the operations authorized by the Liberty Loan Acts were completed.[44]

TABLE 19

U.S. INTERNATIONAL BALANCESHEETS
1914-1929
SELECTED YEARS

(MILLIONS OF US$)

	(1) 1914	(2) 1919	(3) 1924	(4) 1929
A. PRIVATE ACCOUNTS				
ASSETS	3514	6956	10754	17009
LIABILITIES	7200	3985	4044	8931
NET PRIVATE ASSETS	-3686	2971	6710	8078
B. INTERGOVERNMENT DEBTS				
TO THE U.S. GOVERNMENT	--	9982	11774	11685
BY THE U.S. GOVERNMENT	--	391	--	--
NET GOVERNMENT ASSETS	--	9591	11774	11685
C. TOTAL NET ASSETS	-3686	12562	18484	19763

SOURCE: Based on Lewis, C. (1938), pp.447 and 450

Two unambiguous conclusions can be drawn from our reading of Table 19. First, the creditor condition of the United States was already apparent at the end of the war, even without taking in account government loans. Second, also without considering government loans, it appears that the creditor position of the United States was twice as large during the first decade after the outbreak of the war than it was when only the 1920s are taken into account. This idea had already been suggested in Graph 26 where the net U.S. capital exports as a proportion of GNP reached during World War I could not be repeated during the lending boom of the late 1920s.[45]

2. New York, the dominant financial center.

Important changes in the position of international financial centers and in the structure of financial intermediation took place during the first decade after the war. The new wave of foreign lending was accompanied by a crucial change in the identity of investors. About US$16 billion in new capital issues (namely, excluding refunding operations) on overseas account were publicly offered in London and New York between 1920 and 1930. The redistribution of foreign lending is revealed by the fact that over 60% of those issues were placed on New York; and during the lending boom of 1924-1928 New York's share exceeded two-thirds of new issues in both markets. With the collapse of international lending in 1928-29 net capital issues faded in both markets though not at the same rhythm. The two markets reacted positively in 1930 after the downfall of 1929 which was much more severe in New York than in London. Public offerings fell again in 1931, and since then up to 1935 practically evaporated in New York and just languidly survived in London.[46]

Table 20 shows the evolution of new foreign capital issues in the New York market during the 1920-35 period, and their geographical origin. Three subperiods are clearly distinguished. The first one shows an upward trend of foreign issues suddenly interrupted in 1923 after the French occupation of the Ruhr.[47] During these years there was not a clear predominance of any of the main borrowers, Europe, Canada and Latin America. Foreign issues peaked during the 1924-28 subperiod when 60% of the issues for the whole period were placed. The Dawes Loan had a catalytic effect on the upsurge of new capital issues, and a half of those issues was destined to Europe. Latin America ranked second with nearly one-fourth of the funds, and it can be seen that her position became progressively stronger while the European securities became relatively weaker.

The subperiod 1929-35 shows the halting process of U.S. foreign loans: first, an abrupt reduction in 1929 when new capital issues represented 58% of the annual average for the

previous five years; second, a temporary upturn in 1930 coinciding with the flotation of the Young loan; and, third, the dying out of U.S. private long-term lending after 1931. While Canada was the beneficiary of the meagre loans floated in New York between 1932 and 1935 the access of Europe and Latin America to the scanty capital market was negligible.[48]

TABLE 20

FOREIGN SECURITIES PUBLICLY OFFERED IN THE U.S. 1920-1935

(MILLIONS OF US$ AND PERCENTAGES)

YEAR	NET NOMINAL VALUE [a] (US$m)	EUROPE %	CANADA %	LATIN AMERICA %	REST OF THE WORLD %
1920	497	49.7	37.0	9.9	3.4
1921	623	25.1	31.0	36.8	7.1
1922	764	27.7	22.0	29.3	21.0
1923	421	25.7	28.5	27.2	18.6
1924	969	54.3	15.7	19.3	10.7
1925	1076	58.5	12.7	14.7	14.1
1926	1125	43.0	20.1	32.7	4.2
1927	1337	43.2	17.7	25.4	13.7
1928	1251	47.8	14.8	26.4	11.0
1929	671	21.1	43.1	26.1	9.7
1930	905	40.1	30.8	22.0	7.1
1931	229	34.0	54.8	1.4	10.1
1932	29	--	100.0	--	--
1933	11	32.3	50.4	17.3	--
1934	--	--	--	--	--
1935	45	--	94.2	0.4	5.4

SOURCES: UNITED NATIONS (1964) p.20
ROYAL INSTITUTE (1937) p.171 and 182

[a] The concept of net nominal value corresponds to the value of annual issues excepting those for refunding purposes.

After the war, potential borrowers faced different financial conditions in the U.S. and London markets. Table 21 shows some relevant rates for borrowers and investors on long-term bonds. Each market offered higher yields on foreign bonds as compared

TABLE 21

YIELDS ON DOMESTIC AND NEW FOREIGN BONDS

GREAT BRITAIN AND UNITED STATES
1921-1929

(PERCENTAGES)

YEAR	GREAT BRITAIN (CONSOLS)	GREAT BRITAIN FOREIGN BORROWERS (EMPIRE)	GREAT BRITAIN FOREIGN BORROWERS (INDEPENDENT COUNTRIES)	UNITED STATES (DOMESTIC BONDS)	UNITED STATES (FOREIGN BONDS)		
	(1)	(2)	(3)	(4)	(5)	(6) (=3-5)	(7) (=5-4)
1921	5.2	6.42	7.49	5.79	7.54	-0.005	1.75
1922	4.4	5.68	7.21	4.94	6.63	0.58	1.69
1923	4.3	5.07	6.96	4.98	6.42	0.54	1.44
1924	4.4	5.02	7.57	4.85	6.56	1.01	1.71
1925	4.4	4.99	8.0	4.72	6.51	1.49	1.79
1926	4.5	5.11	7.32	4.6	6.51	0.81	1.91
1927	4.6	5.09	7.07	4.47	6.14	0.93	1.67
1928	4.5	5.05	6.73	4.49	6.09	0.64	1.6
1929	4.6	4.99	7.2	4.69	5.81	1.39	1.12

COLUMN (6): Excess of cost of borrowing in Great Britain over borrowing in the United States.
COLUMN (7): Excess of yield of new foreign bonds over U.S. domestic bonds.

SOURCE: The Royal Institute (1937), pp. 135 and 170

with domestic bonds, which could be interpreted as a
relative measure of risk. The London market discriminated not only between foreign and domestic bonds, but between foreign bonds according to their political status, namely, bonds issued by members of the British Empire, and bonds issued by independent countries. During the lending boom of 1924-28 the annual average yield on foreign bonds from outside the Empire was 7.33%, far above the average risk-free return of 4.48% offered by Consols. The discrimination between foreign bonds is revealed by the fact that during the same period, while the annual average difference between yields on Empire-members bonds and Consols was of 0.6 points, the difference between yields on independent- and Empire-members countries was 2.2 points.[49]

In the U.S. market, the annual average yield offered on foreign bonds during the loan boom of 1924-28 was 6.36%, while that on domestic bonds was 4.63%. This means that while the U.S. domestic yield was slightly higher than its British similar, the cost of foreign borrowing in the U.S. was nearly 1.0 point cheaper than that of independent countries borrowing in the London market. Given this difference, only Empire members -with the important exception of Canada, and to some extent Australia-, still found it convenient to float their capital issues in London. The fact is that while the annual average borrowing rate for Empire countries was 5.3% during the period 1921-1929, Canada managed to get an average rate of 5.2% in the U.S. market, well below the 6.36% imposed on the rest of foreign borrowers.[50]

The rise of New York to an unrivalled position within international financial centres is not thoroughly reflected in the volume of new issues or in the structure of interest rates. An important institutional factor was the change experienced by U.S. banks. The conventional role of trade financing was supplemented by investment banking services. These services implicated not only broker-dealing activities, but promotion of foreign bond issues. More importantly, by creating security affiliates, traditional short-term commercial banks became involved in long-term foreign lending. Because the security affiliates were not constrained by the laws that regulated branch banking, those new organizations were able of opening offices

throughout the United States and abroad. By 1930, banks and their affiliates had generated about 45% of all securities offered in the United States.[51]

3. Geographical distribution of U.S. investments.

We now turn to discuss the geographical location of U.S. foreign investments and the net cash flow of U.S. foreign dollar-denominated loans during the transition period. Our starting point is the distribution of investments at the beginning of World War I. As seen above (Table 13), U.S. foreign investments represented no more than 8% of world foreign investments at that time. The discrimination of this relatively low proportion -as compared with those of Great Britain, France and Germany-, by kind of investment and destination appears in the first column of Table 22. Direct investment was overwelmingly important, with 75% of the total. Latin America as a whole was the main beneficiary, with 47% of total investments, far ahead of Canada with 25% and Europe with 20%. In the Latin American context, Mexico gathered 50% of investments in the continent, and Cuba 20%; Mexico and the rest of Central America accumulated 78% of investments, while the South American region was left with the remaining 22%.

Portfolio investment became increasingly important during and after the war. Its share in total investments passed from one-fourth in 1914 to over one-half in 1929. The biggest "jump" happened between 1914 and 1919 when the share of portfolio investments grew by 15%, contrasting with more moderate increases of 5% in the first and second halves of the 1920s. As expected, this evolution coincided, first, with the enlarged lending to Europe during the war, and second, with the comparable absolute increase of direct investments which accompanied the expanding loans to regions such as South America and Africa-Asia, and to a lesser extent, Canada.

TABLE 22
U.S. Foreign Investments
Geographic Areas
Selected Dates
(Millions of US$)

		1914	1919	1924	1929
Europe	D	573.3	693.5	921.3	1340.3
	P	118.5	1293.3	1731.5	3260.2
	T	691.8	1986.8	2652.8	4600.5
Canada	D	618.4	814.3	1080.5	1657.4
	P	248.8	728.5	1551.2	2002.8
	T	867.2	1542.8	2631.7	3660.2
Mexico	D	587.1	643.6	735.4	709.2
	P	266.4	265.3	269.7	266.0
	T	853.5	908.9	1005.1	975.2
Cuba	D	281.3	567.3	993.2	1025.5
	P	55.0	38.9	108.1	128.4
	T	336.3	606.2	1101.3	1153.9
Central	D	89.6	112.5	143.5	250.9
America	P	3.6	2.3	11.8	35.4
	T	93.2	114.8	155.3	286.3
South	D	323.1	664.6	947.1	1719.7
America	P	42.6	111.6	464.1	1294.1
	T	365.7	776.2	1411.2	3013.8
Africa	D	149.5	258.7	442.8	725.3
and Asia	P	126.6	136.2	428.4	837.3
	T	276.1	394.9	871.2	1562.6
Banking	D	30.0	125.0	125.0	125.0
	P	-	-	-	15.1
	T	30.0	125.0	125.0	140.1
Total	D	2652.3	3879.5	5388.8	7553.3
Long-term	P	861.5	2567.1	4564.8	7839.3
	T	3513.8	6455.6	9953.6	15392.6
Short-term credits			500.0	800.0	1617.0
All Investments		3513.8	6955.6	10753.6	17009.6

Source: Lewis, Cleona (1938, Appendix D)

D: Direct Investment
P: Portfolio Investment
T: Total Investment

NOTES

1. Portfolio investment mainly consists of foreign government or private bonds publicly offered in the United States.
2. Direct investment is defined as investments in which U.S. nationals or enterprises held control of at least 25% of the equity capital.
3. Direct investments were later corrected by the U.S. Department of Commerce. Accordingly, direct investments for Latin America in 1929 were reduced from US$3,645.8 million to US$3,462 million. United Nations (1964), p.32.

Latin America and Europe protagonized the main distributional changes during the period. The former lost a share of 10% of total U.S. investments in favor of the latter. Even so, in 1929, Latin America retained the major portion of investments -35%-, followed by Europe -30%-, which displaced Canada to the third position -24%-. This last country managed to keep a stable share of investments during the period, though progressively attracting more portfolio than direct investments. Important variations occurred in Latin America as U.S. investments moved from Central to South America. Investments in Mexico stagnated, and South America gathered 56% of the investments in the region at the end of the period.

Tables 23 and 24 provide information about the net flow -disbursements minus repayments- of U.S. dollar-denominated loans. The former offers a general outlook of the two decades after the outbreak of World War I. It shows the upsurge and collapse of net flows and their distribution across regions. As seen, Europe played a dominant role both as net borrower and net repayer. The comparatively secondary position during 1920-24 is explained by the substantial repayment of short-term war loans previously mentioned; in fact, Europeans -mostly Great Britain and France- dedicated 67% of their gross borrowing during 1920-24 to finance those repayments. Net repayments dominated during the first half-decade after the foreign lending crisis of 1929: 77% of these repayments came from Europe, mostly from Germany, France, and Great Britain.

The overall balance of net loans (Column 5 in Table 23) confirms the predominant position of Europe followed by Canada. These two regions received two-thirds of total net loans. Latin America gathered only 22%, a share similar to those achieved during the expansionary cycle of British capital exports between 1870 and 1913. Finally, it is seen how only 43% of the gross flow of U.S. loans during the period actually became net loans. This outcome mainly follows from the fact that debtor countries as a whole became net capital exporters after the virtual interruption of foreign lending in 1929.

TABLE 23

NET NEW U.S. LOANS
PERIOD 1915-1935

(MILLIONS OF US$)

	(1) 1915-19	(2) 1920-24	(3) 1925-29	(4) 1930-35	(5) 1915-35	(6) COL.(5) AS % OF GROSS NEW LOANS
ALL COUNTRIES	1906.3	2030.3	2985.4	-1001.9	5920.1	43.2
EUROPE	1277.8	384.0	1345.7	-788.1	2219.4	34.1
CANADA	530.1	817.4	370.8	-32.2	1686.1	46.1
SOUTH AMERICA	72.3	343.1	826.2	-49.3	1192.3	54.1
OTHER LATIN AMERICA	-2.4	83.5	37.9	8.4	127.4	48.0
AUSTRALIA AND OTHERS	28.5	402.3	404.2	-152.5	682.5	64.0
BANKING			0.6	11.8	12.4	86.1

SOURCE: Based on Lewis, C. (1938) Appendix E

TABLE 24
Net flow of U.S. loans
(Long- and short-term)
1924 through 1929
(Millions of dollars)

	(1) U.S. Portfolio 1924	(2) U.S. Portfolio 1929	(3) (=2-1) Net flow 1924-1929	(4) (3/2 X100) % change 1924-1929
BORROWERS *				
EUROPE	1708.8	3054.5	+1345.7	+78.8
France	436.6	334.6	-102	-23.3
Germany	121.9	964.4	+842.5	+691.1
U. K.	298.9	143.0	-155	-51.9
Italy	17.3	315.0	+297.7	+1721
Norway	94.7	180.7	+86	+90.8
Poland	29.6	131.7	+102.1	+344.9
CANADA	1487.6	1858.4	+370.8	+24.9
SOUTH AMERICA	437.4	1263.6	+826.2	+188.9
Argentina	178.0	358.7	+180.7	+101.5
Brazil	136.8	314.8	+178.0	+130.1
Chile	52.1	236.3	+184.2	+353.6
Colombia	14.1	164.9	+150.8	+1069.5
Rest	56.4	188.9	+132.5	+234.9
OTHER LATIN AMERICA	263.5	301.4	+37.9	+14.4
Cuba	76.3	94.8	+18.5	+24.2
Mexico	143.6	139.0	-4.6	-3.2
OTHER COUNTRIES	457.1	861.3	+404.2	+88.4
Australia	23.0	240.6	+217.6	+946.0
Japan	179.0	327.2	+148.2	+82.8
OTHERS **		0.6		
TOTAL	4354.4	7339.8	+2985.4	+68.6

Source: Lewis, Cleona (1938, Appendix E-5)
* Only main debtors are discriminated. **Banking

The distribution by countries of the U.S. lending boom of 1925-1929 appears in Table 24. Nearly a half of the net flow of loans went to Europe, and Germany alone received 28%. Germany and Italy obtained 85% of the net loans to Europe and 38% of the total loans. Net loans to Germany alone exceeded those to South America and were just inferior to those to the whole Latin America. After Germany, the second important debtor country was Canada, though the latter did not achieve one-half of the credits extended to the former.

In the South American region, Chile just exceeded the loans to the traditional major debtors, Argentina and Brazil. Colombia appeared in the group of major international debtors for the first time since the 1820s, and in the list of outstanding Latin American debtors for the first time since the 1860s. Chile, Argentina, Brazil and Colombia as a whole accounted for one-fourth of total U.S. foreign loans during the 1925-29 period. Finally, as previously noted, Mexico, an important international debtor before World War I, did not share in the U.S. lending boom of 1915-29.

4. The U.S. lending to South America

The distribution of U.S. loans in South America during the 1921-31 period is shown in Table 25. In terms of individual countries, Argentina was by far the main beneficiary with 42% of gross total borrowing, followed by Brazil with 19%, Chile with 16% and Colombia with 10%. Short-term borrowing was unusually characteristic of Argentina. That is the reason why in spite of the hugeness of gross borrowing, the Argentinian net borrowing was similar to those of Brazil and Chile in Table 24.

As seen in Table 25, the flow of loans was neither continuous nor regular. Two-thirds of total flow of loans were concentrated during the lending boom of 1924-28; and even more significant, one-half of total flow of loans was allocated during 1926-28, the only years when all the South American countries which had access to the U.S. foreign market in the 1920s actually received any loans.[52] At the beginning of the

TABLE 25

SOUTH AMERICA
GROSS INFLOW OF U.S. PRIVATE FUNDS

1921 - 1931

(MILLIONS OF U.S.$)

BORROWER	1921-1922	1923	1924-1925	1926-1928	1929	1930	1931	TOTAL FLOW 1921-1931	%
ARGENTINA	96.3	55.1	257.3	263.2	1.5	145.3	23.9	842.6	42.0
BOLIVIA	34.3	-	5.1	32.0	-	-	-	71.4	3.6
BRAZIL	136.5	2.0	8.7	197.5	10.9	30.0	-	385.6	19.2
CHILE	62.0	-	18.3	177.6	42.4	21.4	-	321.7	16.0
COLOMBIA	6.8	-	13.0	183.3	1.8	0.5	-	205.4	10.3
PERU	2.5	-	14.5	94.2	2.0	-	-	113.2	5.6
URUGUAY	15.8	-	-	31.7	-	8.3	-	55.8	2.8
VENEZUELA	-	-	-	10.0	-	-	-	10.0	0.5
GROSS FLOW PER PERIOD	354.2	57.1	316.9	989.5	58.6	205.5	23.9	2005.7	
PER CENT OF TOTAL FLOW	17.8	2.8	15.8	49.3	2.9	10.2	1.2		100.0

SOURCE: Based on Lewis (1938), Appendix E.

1920s there was a short experience of huge expansion followed by retreat of foreign lending. The influx of U.S. loans in 1921-22 was completely unprecedented; in fact, the accumulated loans since the outbreak of the war up to 1920 barely exceeded one-half of those of 1921-22.[53] U.S. loans were practically stopped for one year, before the spurt of lending in 1924-28; this ephemeral stoppage was only a minor precedent of the permanent halting of private loans since 1928. The reaction observed in 1930 was basically due to a huge loan contracted by Argentina, and only one-third of the loans of the year were negotiated on a long- term basis. In 1931, a short-term credit also to Argentina was the only remainder of the large cycle of U.S. private loans to South America in the 1920s.

a. The destination of U.S. investments. The debtors' perspective.

There was a diversity of objectives behind the U.S. loans to South America. On the debtors' side and at different moments during the decade, countries appeared to be guided either by developmental- or revenue-finance motives. Revenue finance could have predominated during the first half of the decade, but developmental finance was the prevailing issue during the second half. It can be estimated that about 52% of the long-term loans extended to South America during 1925-29 were contracted for the purpose of developmental finance, around 27% were exclusively negotiated for revenue finance reasons, and the remaining 21% were obtained for a mixture of developmental and revenue finance goals. Then, it is not adventured to say that roughly one-third of the loans was destined to solve budgetary problems.[54]

Revenue finance did not limit to refunding operations of external debt. A frequent practice in the 1920s was the application of external loans to the reduction of the internal debt burden; the usual operation was the conversion of the floating internal debt into long-term external bonds. The experience of the two main debtors, Argentina and Brazil, is illustrative. In the Argentinian case, around 80% of the 1921-22 loans (Table 25) was destined to repay advances by domestic banks and to cancel short-term loans. Later, the repayment of Government Treasury Notes and the consolidation of the floating debt were central aims in

the negotiation of about 45% of the 1924-25 loans. As a whole, and for the entire decade, debt conversions represented about 45% of the Argentinian dollar loans, while developmental projects represented around 40%.[55]

Brazil also found support in the U.S. capital market to alleviate her internal debt problem. About one-third of her heavy indebtedness during the 1926-28 period (Table 25) was destined to reduce the floating internal debt. Even more characteristically, Brazil applied external resources to the stabilization of the internal price of coffee. The last Brazilian access to U.S. foreign financing in 1930 (Table 25) was part of a bigger external debt operation intended to finance large unsold coffee stocks. British banks played the major role, managing to float Brazilian bonds for about US$60 million in London and other European markets, in the midst of the withdrawal of international lending. Some years later, the British Royal Institute of International Affairs interpreted these loans as part of "an attempt to stave off the crisis".[56]

Countries with minor participation in the lending boom also sought to convert part of their internal into external debt. That is the case of Perú which applied external funds to the reduction of one-half of its internal debt.[57] Other countries did not float bonds abroad with the explicit aim of reducing the burden of internal debt, but given the access to external funds their treasuries managed to lower the stock of internal debt. The Chilean experience during 1925-28 is illustrative; while the national government increased the external debt by 71%, the stock of internal debt was curtailed by 63%. Finally, the Colombian case during 1925-27 is an example of substantial increase in the external debt of the national government -117%-, accompanied by a moderate reduction of 10% in the internal debt. Later, when the external capital market became increasingly stringent during 1928-30, both the Chilean and Colombian governments turned back to internal financing.[58]

<u>b. The destination of U.S. investments. The investors' and bankers' side.</u>

On the investors' side, the exploitation of natural resources and development of public utilities captured a great deal of attention. Direct investments were concentrated in the industrial mineral sector and in the petroleum production sector. Important examples of the former were the copper companies in Chile, and of the latter, the investments in Venezuelan and Colombian oil. Portfolio investments in securities issued either by national, provintial or municipal governments, or by investment banks, were notably intended to finance public utilities, the construction of infrastructure (roads, railways, portworks, power plants), and agricultural development.[59]

Apart from the prospect of exploiting the endowment of natural resources, South America promissed to be "good business" for bankers. The ultimate investors were not banks but small private investors who followed the engaging financial propaganda of the newly created security affiliates of commercial banks. Bankers competed not only for allocating foreign bonds between potential investors, but for encouraging foreign governments to borrow.[60] Bankers obtained an average commission of 3.3% over the par price of U.S. loans along the period 1915-29, though neither the discount asked by the public nor the spread required by banks were uniform across regions. At one extreme, bankers obtained a spread of 2.1% on loans to Canada, while at the other extreme bankers obtained a 4.4% spread on loans to South America. In the middle, loans to Europe left a bankers' spread of 3.4%.[61]

It seems that lenders' discrimination between borrowers was affected by geographical proximity, relative importance of U.S. direct investments, and political factors. Central America and West Indies -mainly Cuba, Dominican Republic, Haiti, Jamaica- played the role of sphere of influence of the United States. Canada was not only the immediate neighbour, but the recipient of one-fourth of total U.S. direct investments in 1930. Altogether Canada, Central America (excluding Mexico) and West Indies accommodated 40% of the stock of foreign U.S. investments in 1930. In contrast, the remote Asian countries were the recipients of no more than 5% of world U.S. investments, or 7% when investments in Australia are included.[62]

Bankers were not alone in searching for profitable opportunities abroad. It has been documented how U.S. companies, notably construction companies, played an important role in obtaining external finance. In this context the access to foreign lending during the 1920s was facilitated and even stimulated by the way in which financing was made available when public works were contracted with U.S. companies.[63] It is important to note that the presence of contractors was encouraged by the increasing number of branches of U.S. factories operating abroad, a fact of major relevance in South America; as seen before with reference to Table 22, South America was the major recipient of U.S. direct investments in the 1920s and particularly in 1924-29, far ahead of Canada and Europe. Given the dependence of direct investments and public works not only on U.S. private finance, but also on technology, prosperity in borrowing countries became an additional factor of prosperity at the center. This was another reason for borrowers and creditors alike to hold on foreign lending through the 1920s.

Finally, it has to be noted that Latin America as a whole satisfied commonly accepted indicators of creditworthiness. As for the trade balance, during the first-half of the decade the average surplus represented 15% of exports. As for the fiscal balance the results were less encouraging, since a persistent deficit had dominated during the first-half of the decade; however, while government expenditures had been growing at an annual rate of 2.2%, revenues had been increasing at the rate of 2.8% per year.[64] Any reservations about fiscal stability could have been moderated by processes of financial modernization in the region, and particularly by the adoption of the Gold Standard. In fact, by 1926, ten Latin American countries had adopted such monetary regime, and by 1928 the list included sixteen countries.[65]

D. The access of Colombia to foreign lending during the 1920s.

1. Institutional precedents

Although the U.S. lending wave did not fully arrive in South America until the second-half of the 1920s (Table 25), a series of events and institutional changes prepared the country for the influx of foreign financing. An important fact was the indemnity payment -US$25 million- offered by the U.S. government to Colombia for the loss of Panama in 1903, which improved the diplomatic relationships between the two nations (Urrutia-Thompson Treaty). The indemnification was paid by instalments -US$10 million in 1923 and single payments of US$5 million between 1924 and 1926-. Meanwhile, Colombia implemented an integral reform of her financial and fiscal structures. Outstanding results of these reforms were the foundation of a highly independent central bank -the Bank of the Republic- and the reorganization of government budgeting processes. These reforms coincided with the adoption of the Gold Standard in 1923, a salient event in the region since Colombia was the first South American country to return to gold. Other prominent borrowers followed suit: Chile in 1926, and Argentina and Brazil in 1927.

Of vital importance for the implementation of the institutional changes was a financial mission headed by the U.S. expert Edwin W. Kemmerer. Universally recognized as the "money doctor", Colombian authorities required his advice and support as a means of securing the credibility of the reforms at home and abroad. For as long as two decades successive government initiatives had sought to restore convertibility with only temporary and partial success. The creation of an independent monetary authority was also a permanent aspiration during those years. More even, the political decision of banning money-financed deficits led in 1910 to the constitutional prohibition of new issues of fiat money, as seen in Part I, Section II. With these longstanding institutional precedents and with the prospect of receiving the indemnity payment from the U.S. government for the loss of Panama, the contracting of the Kemmerer mission had the characteristic of a housecall to the money doctor to enhance the viability and success of the reforms.

By 1923 the crucial financial and fiscal reforms were already in place. Such changes improved the prospects of access to foreign credit markets. More even, there were explicit

attempts to encourage large-scale foreign borrowing. For instance, a legislation of late 1922 (Law 102) authorized the national government to float external loans up to the limit of US$100 million intended to finance railways and ports. Later, in 1924, one of the objectives of the new Agricultural Mortgage Bank was the flotation of external loans destined to agriculturalists. These financial ambitions were partially materialized when the U.S. lending wave plentifully reached the South American shores in 1925-28.

The Colombia's access to foreign lending during the 1920s can be described by trying to answer two questions. First, we inquire who the ultimate borrowers were, and second, we investigate the financial conditions under which loans were arranged. The total borrowing reached about US$236 million between 1920 and 1929. The overwhelming majority of Colombian bonds -92%- was placed in the United States. The remaining 8% was acquired by British investors. U.S. loans were mostly negotiated during 1926-28, while the few British loans were floated at the extremes of the period -one in 1920 when the U.S. lending boom of the late 1920s hardly could have been foreseen, and three loans in 1928-1929 coinciding with the stagnation of U.S. loans-.

2. The borrowers

A global description of borrowers is offered in Table 26. Three different government entities -Nation, Departments, Municipalities-, and mortgage banks, floated bonds in the United States. As seen, the Nation had a direct control and responsibility over only 35% of contracted loans. Departments (regional authorities) got a share of the borrowing similar to that of the Nation. Departments and Municipalities (local authorities) altogether, were responsible for nearly a half -48%- of total borrowing in the United States. Additionally, mortgage banks managed to sell bonds for an amount equivalent to 17% of that total borrowing; one of these banks -the Agricultural Mortgage Bank (AMB)-, offered its bonds backed with the guarantee of the national government. These bonds represented 42% of the total offered by banks. Because the guarantee implied a contingent liability on the national

TABLE 26

COLOMBIA
U.S. CONTRACTUAL LOANS
BY BORROWERS
1920-1929

(MILLIONS OF US$)

YEAR	NATIONAL GOVERNMENT	DEPARTMENTS	MUNICIPALITIES	MORTGAGE BANKS	TOTAL
1920	0.45	-	2.50	-	2.95
1921	-	-	-	-	-
1922	5.00	1.40	-	-	6.40
1923	-	-	-	-	-
1924	-	-	9.00	-	9.00
1925	-	3.00	1.00	-	4.00
1926	10.00	24.50	3.50	9.00	47.00
1927	25.00	12.20	4.70	23.06	64.96
1928	35.00	29.85	10.14	6.05	81.04
1929	-	1.75	0.75	-	2.50
TOTAL 1920-1929	75.45	72.70	31.59	38.11	217.85
% OF TOTAL LOANS	34.6	33.4	14.5	17.5	100.00

SOURCES:
Appendix to this section.

budget, it follows that the responsibility of the national government would cover from 35% to 42% of contracted loans, was the AMB unable to fulfill its debt service obligations. Finally, it has to be noted that mortgage banks other than the AMB floated 10% of total loans; this figure represented the share of the private sector in the total value of Colombian securities publicly offered in the United States during the 1920s.

It is clear from Table 26 that most loans were negotiated during 1926-1928. In terms of value, 9 out of 10 loans were contracted during these three years. The Nation, six departments, four municipalities -the most important cities in the country-, the AMB, and three private mortgage banks raised funds on United States bond markets. Such funds were not proportionately distributed between borrowers. As revealed in Table 27 one department -Antioquia-, floated 15% of total loans, or 45% of the funds obtained by the six Departments. Similarly, one municipality, Medellin, floated 8% of total loans, or 55% of the funds received by the four municipalities. Given that Medellin is the capital of Antioquia, the immediate conclusion is that only one region accounted for 48% of credits received by regional governments, and 23% of total credits to the country.

It is worth saying that Antioquia's and Medellin's loans did not result from few and big lending contracts, as it was the case of the National government credits of 1927 and 1928. On the contrary, their access to foreign funds was made up of frequent and relatively small lending contracts. Antioquia and Medellin accounted for nearly a half -48%- of the successful attempts of regional governments at selling bonds abroad. The outstanding position of Antioquia is not surprising given its historical role of leading industrializing region, and the second most important center of coffee production in the country.[66]

TABLE 27

COLOMBIA
TOTAL LOANS FLOATED IN THE UNITED STATES
BY BORROWERS
1920-1929

(MILLIONS OF US$ AND PERCENTAGES)

	US$	%
A. NATIONAL GOVERNMENT	75.45	34.6
B. DEPARTMENTS	72.40	33.4
ANTIOQUIA	32.35	14.8
CALDAS	10.20	4.7
CAUCA VALLE	9.90	4.5
CUNDINAMARCA	15.75	7.3
SANTANDER	2.00	0.9
TOLIMA	2.50	1.2
C. MUNICIPALITIES	31.59	14.5
BARRANQUILLA	2.50	1.2
BOGOTA	8.70	4.0
CALI	2.89	1.3
MEDELLIN	17.50	8.0
D. MORTGAGE BANKS	38.11	17.5
1. WITH GOVERNMENT GUARANTEE		
AGRICULTURAL MORTGAGE BANK	16.00	7.3
2. WITHOUT GOVERNMENT GUARANTEE		
BANK OF COLOMBIA	3.05	1.4
MORTGAGE BANK OF BOGOTA	6.00	2.8
MORTGAGE BANK OF COLOMBIA	13.06	6.0
E. TOTAL	217.85	100.0

SOURCES
Appendix to this section

3. The financial conditions

Our second question refers to the financial arrangements of loans. In our general discussion of bankers' spreads during the 1920's, we mentioned how bankers obtained spreads from

South American loans which turned out to be larger than those from other borrowers. We now examine the Colombia's position in the context of major indebted countries, and according to the identification of particular borrowers -government entities and corporations-. Table 28 offers information about the two largest international borrowers -Germany and Canada-, and the leading South American borrowers.

TABLE 28

INTEREST RATES ON U.S. LONG-TERM LOANS
SELECTED COUNTRIES
1924-1929
(%)

	CONTRACTUAL RATES	YIELD TO INVESTORS	YIELD TO BANKERS
A. NATIONAL AND PROVINCIAL GOVERNMENTS			
GERMANY	6.54	6.94	7.28
CANADA	4.56	4.65	4.73
ARGENTINA	6.18	6.36	6.68
BRAZIL	6.80	7.22	7.74
CHILE	6.00	6.40	6.75
COLOMBIA*	6.53	6.94	7.34
B. MUNICIPAL GOVERNMENTS			
GERMANY	6.60	6.92	7.32
CANADA	4.70	4.83	4.95
ARGENTINA	6.60	6.80	7.13
BRAZIL	6.90	7.13	7.60
CHILE	7.33	7.36	7.66
COLOMBIA*	7.35	7.68	8.55
C. CORPORATE			
GERMANY	6.38	6.78	7.10
CANADA	5.05	5.20	5.35
CHILE	6.32	6.58	7.13
COLOMBIA*	6.72	7.12	7.75

SOURCES: LEWIS (1938), APPENDIX E3
APPENDIX TO THIS SECTION FOR COLOMBIA ONLY
* Calculations for Colombia correspond to the period 1920-1929. Because 95% of U.S. loans to Colombia were contracted in 1924-29, the figures for both periods are practically the same.

A first general point is that in almost all cases, rates charged on municipal loans exceeded those on national and provincial loans. A second observation which corroborates previous descriptions is the privileged situation of Canada, the second biggest borrower of the 1920s, which secured the lowest interest rates -contractual and yields to maturity-.

Within the sample of countries in Table 28 Colombia shows the highest interest rates on municipal and corporate loans, and shared with Germany the second-highest interest rates on national and provincial loans. In the case of municipal loans, Colombia was charged with the highest contractual rate just above Chile, but in comparison with this country investors demanded a higher yield from Colombian cities. An even stronger discrimination came from the bankers, who obtained their by far maximum effective rates from the intermediation of loans to Colombian municipalities. The experience repeats itself in the case of corporate loans, though less markedly than in the case of municipal loans; once more, the highest bankers' yield was obtained from the intermediation of Colombian loans, but the difference with the yield paid to investors just exceeded that achieved in the intermediation of Chilean loans. Finally, according to the figures, the rates paid by Colombia on national and provincial loans were only surpassed by those paid by Brazil. The contractual rates and the effective rates demanded by investors were similar in Germany and Colombia, but once more the bankers' commission resulted more rewarding in the Colombian example.

Table 29 exhibits the financial conditions of the credits given to Colombian borrowers during the 1920s. The first column shows the average length of life of bonds issued by each borrower. As seen, while the average length of life of the few British loans exceeded 30 years, the average term of U.S. loans was 24 years. The two U.S. big loans to the national government in 1927 and 1928 were for 33 years, but the greater number of the loans were for about 20 years' duration. The second column displays the average values of the interest rates which the issuing borrowers promised to pay on the face value of the bonds; as a rule, contracts established that interests would be payed semiannually. According to the figures,

TABLE 29

COLOMBIA
CONTRACTUAL TERMS AND YIELDS TO MATURITY
U.S. AND BRITISH LOANS

1920-1929

	(1) TERM (YEARS)	(2) CONTRACTUAL INTEREST RATE (%)	(3) YIELD TO INVESTORS[1] (%)	(4) YIELD TO BANKERS[2] (%)	(5) BANKERS' COMMISSION RATE (%)
A. U.S. LOANS	24.0	6.78	7.18	7.75	0.57
1. NATIONAL GOVERNMENT[3]	33.0	6.00	6.39	6.55	0.16
2. DEPARTMENTS	22.2	7.05	7.48	8.13	0.65
ANTIOQUIA	23.4	7.00	7.46	7.91	0.45
CALDAS[4]	20.0	7.50	7.79	9.00	1.21
CAUCA VALLE[5]	20.0	7.30	7.61	8.45	0.84
CUNDINAMARCA[6]	30.0	6.50	6.94	7.34	0.40
SANTANDER	20.0	7.00	7.53	8.02	0.49
TOLIMA	20.0	7.00	7.57	8.04	0.47
3. MUNICIPALITIES	20.7	7.35	7.68	8.55	0.87
BARRANQUILLA	17.0	8.00	7.98	9.31	1.33
BOGOTA	20.5	7.25	7.73	8.51	0.78
CALI	20.0	7.00	7.44	8.25	0.81
MEDELLIN[7]	25.3	7.16	7.56	8.12	0.56
4. MORTGAGE BANKS	20.0	6.72	7.18	7.75	0.57
AGR. MORT. BANK	20.0	6.50	6.98	7.51	0.53

PRIVATE BANKS:	20.0	6.94	7.38	7.99	0.61
BANK OF COLOMBIA	20.0	7.00	7.38	8.01	0.63
MORT BANK BOGOTA	20.0	7.00	7.38	8.05	0.67
MORT BANK COLOMBIA	20.0	6.83	7.38	7.91	0.53
B. BRITISH LOANS	32.0	6.38		7.78	
1. NATIONAL GOVERNMENT[8]	34.0	6.00	N.A.	8.10	N.A.
2. MORTGAGE BANKS	30.0	6.75	7.22	7.46	0.24
AGR MORT BANK	30.0	6.50	7.06	7.27	0.21
MORT BANK BOGOTA	30.0	7.00	7.38	7.64	0.26

SOURCES:
Calculations based on the appendix to this section.

NOTES:

1. The nominal yield rate converted semiannually is given by $i=(r+2d/n)/(2-d)$. i, is the yield or investors' rate per year. r is the interest rate paid on bonds per year. d is the discount. n is the number of interest conversion periods.
2. Yield rate to maturity obtained by bankers, equivalent to the rate paid by borrowers.
3. Loans of 1927 and 1928 only.
4. Loans of 1926 only.
5. The 1922 loan is not included in calculations.
6. The 1926 loan only.
7. The 1920 loan is not included in calculations.
8. The 1920 loan only.

the national government got the lowest contractual rate of the time -6%-, on the U.S. loans as well as on the solitary British loan of 1920. Departmental loans were contracted at rates which on average exceeded in one percentage point the loans to the national government, and municipal loans were contracted at even higher average rates. Finally, mortgage banks'loans were accepted at average rates similar or inferior to those of the departmental loans.

The third column lists the rates of interest equivalent to the return which investors expected to earn when they purchased Colombian bonds. The fourth column records the rates of interest required by bankers, which are equivalent to the effective rates paid by the borrowers. The last column reports the commissions actually earned by bankers, measured as the difference between the yields received by investors (column 3) and those paid by the borrowers (column 4). Bankers' commissions were not equivalent across borrowers. It can be seen that they varied from less than one-sixth of a percentage point for credits to the national government, to two-thirds of a percentage point for credits to the departments, and to nearly a full percentage point for credits to the municipalities. From the borrowers' perspective, it can be observed that the higher the contractual rates, the larger the commission demanded by bankers; thus, while bankers required a commission of 0.87 of a percentage point on municipal bonds bearing nominal rates of 7.4%, they only required 0.16 of a percentage point on national loans bearing bond rates of 6%.

Some hypotheses can be offered to explain bankers' discrimination across borrowers. At first sight the figures seem to suggest an inverse relationship between the size of the loans and bankers' commissions; that is the impression obtained when the small commissions on the big national loans are compared with the larger commissions on the smaller individual credits to departments and municipalities. Hypothetically, then, it could be argued that economies of scale in the marketing of big loans would render low commissions. However, the hypothesis does not seem to follow when individual loans of different sizes to departments and municipalities are compared. An alternative hypothesis would suggest that reputation and political factors, such as the closeness of regions to the centers of political decisions, could

have influenced bankers' criteria. Medellin, "the industrial capital of Colombia", and Bogota, the political capital, were charged with the smallest commissions, and the same happened to their corresponding geographical locations, Antioquia and Cundinamarca.

Ultimate investors seem to have held criteria different from those of bankers. Investors charged higher discounts on the national government loans, and lower discounts on the departmental and municipal loans. On average, investors demanded a discount of 6.2% on the par values of national government loans, 5.2% on the par values of departmental loans, and 3.9% on the par values of municipal loans (Appendix to this section). More precisely, the information suggests that contractual rates and term of the loans constituted the main appeal for investors. Departments which offered contractual rates above 7% were charged with the lowest discounts by ultimate investors and with the highest discounts by bankers. The case of the Department of Caldas is illustrative; given a high contractual rate of 7.5%, and a time to maturity of 20 years, U.S. investors paid a price of 96.8% of the par value, while the price paid by bankers was of only 84.3% of the par value. Similar experiences are offered by the municipalities, of which that of Barranquilla is the most dramatic; given the highest average contractual rate of the whole period, 8.0%, and a time to maturity of 17 years, U.S. investors paid a price of 100.2% (with premium!), while bankers demanded the largest commission of the period by paying only 87.6%.

Finally, Colombia also shared in the worldwide phenomenon of excesses of borrowers and lenders. During the lending boom U.S. bankers roamed Colombia scrambling for investment opportunities. Departments and municipalities were an easy target for loan pushers. Some contemporary testimonies are illustrative. "At one time, ..., there were 29 representatives of American financial houses in Colombia alone trying to negotiate loans for the national government, for the departments, and for other possible borrowers"[67]. By 1928, when the downfall of U.S. foreign lending had already started, the U.S. ambassador in Colombia issued the following critical statement: "The Legation has frequently in the past expressed its strong conviction that the various American banking houses who have during the past three years

floated various Colombian national, departmental, and municipal foreign loans were not exercising due care in protecting the interests of the American bondholder and were not assuming that degree of moral responsibility towards their clients which is necessary to a sound policy of foreign financing".[68]

The Colombia's overenthusiasm for foreign financed public works was also described by the American legation in Bogota. Writing to the Department of Commerce at the end of 1928, the U.S. commercial attaché at Bogota expressed: "I think Colombia is going wild on borrowing. She has started too many roads and too many highways, and she has not any idea where she is going to get all the money, except that the money is coming so readily now that she just thinks she can borrow ad infinitum.[69] That overenthusiasm was, however, coming to an end, since by 1928 the abundance of U.S. foreign credit was no longer in place. A chain of events starting with the boom (1928) and crash (1929) of Wall Street, followed by the Great Depression, brought about the collapse of U.S. lending, to which discussion we now turn.

E. The collapse of the U.S. foreign lending

The boom of U.S. external loans came to an end after a series of adverse shocks. These shocks not only reduced the U.S. capital outflows but undermined the ability to pay of debtor countries. Some shocks were mainly originated at the centre such as the Wall Street boom of 1928, and the downturn of the business cycle, while other shocks were enhanced by policies adopted in the periphery. Different debtors fared differently according to the commodity lottery, the relative downfall of their real exports, and specific relationships with countries in the centre.

1. The exhaustion of the U.S. loan boom.

The U.S. boom in foreign lending came to a halt in the second half of 1928. The crucial factor was another and shorter boom, this time in the stock market. The way bond and stock

TABLE 30

BOND AND STOCK ISSUES IN THE UNITED STATES

1920-1930

(Millions of U.S.$ and percentages)

	(1) Foreign Bonds	(2) Domestic Bonds	(3) Total Bonds (1)+(2)	(4) Common Stocks	(5) Total Issues (3)+(4)	(6) (3)/(5) %	(7) (4)/(5) %	(8) (1)/(3) %	(9) (1)/(5) %
1920	497	1,808	2,305	540	2,845	81.0	19.0	21.6	17.5
1921	623	2,987	3,610	134	3,744	96.4	3.6	17.3	16.6
1922	764	3,292	4,056	277	4,333	93.6	6.4	18.8	17.6
1923	421	3,312	3,733	324	4,057	92.0	8.0	11.3	10.4
1924	969	3,719	4,688	511	5,109	91.8	8.2	20.7	19.0
1925	1,076	4,067	5,143	558	5,701	90.2	9.8	20.9	18.9
1926	1,125	4,425	5,550	579	6,129	90.6	9.4	20.3	18.4
1927	1,337	5,986	7,323	600	7,923	92.4	7.6	18.3	16.9
1928	1,251	4,590	5,841	1,812	7,653	76.3	23.7	21.4	16.3
1929	671	3,800	4,471	4,408	8,879	50.4	49.6	15.0	7.6
1930	905	4,299	5,204	1,092	6,296	82.7	17.3	17.4	14.4

SOURCES:
Column (1) from Table 20
Columns (2) and (4) from White (1986), p.496

issues evolved during the 1920s is shown in Table 30. Though bond issues predominated through the decade -in a proportion of 9 to 1- the share of common stocks shows a gradual improvement up to 1927; additionally, it is seen that in spite of the boom of foreign bonds, their share in total bond issues was rather steady during the decade. What these observations suggest is that domestic investments kept pace with the unprecedented overseas investments of the time.

The boom in the stock market in 1928-29 substantially reduced both foreign and domestic bond offerings. In 1929 foreign bond issues were only a half of the level achieved in 1927, and domestic bond offerings declined in 37% also in comparison with the level of 1927. In terms of the composition of the investors' portfolio, it is illustrative to say that while in 1927 stock issues represented no more than 7.5% of total issues of bonds and stocks, in 1929 the relevant figure was 49.6%. This one-to-one investors'choice was short-lived since the stock market boom came to an end with the Wall Street crash of October 1929.

An ephemeral revival of foreign bonds at the core of which was the Young loan, took place in 1930. Because of the U.S. external credit crunch since 1928, Germany, the major borrower of the time, found it difficult to satisfy the reparation payments. The Young Plan sought to secure the continuity of those payments, and a loan for US$300 million intended to revitalize international lending. However, in sharp contrast with the Dawes loan, the Young loan did not encourage a new boom of foreign lending; in fact, the U.S. tranche of the loan for US$100 million was barely sold (June 1930) at discount when the Dawes loan had been oversubscribed ten times. Renewed German financial troubles led to the Hoover moratorium on reparations (june 1931) and final demise of the reparations' idea (Lausanne Conference in 1932).[70]

Long-term borrowing by Canada, the second major recipient country, lasted until 1931. In the South American region few countries -mainly Chile and Brazil- had access to long-term funds until 1930. The Brazilian experience was exceptional: London merchant bankers and

New York banks managed to float a US$60 million loan in European markets and a US$35 million loan in New York; the purpose of the operation was to finance the liquidation of voluminous unsold coffee stocks, as we will explain below. Finally, Argentina succeeded in floating a big short-term loan in 1930, the largest one contracted by any South American country during the U.S. lending boom. It was the end of the line.[71]

An important development after the collapse of the U.S. foreign bond market was the extension of bank loans to foreign governments. It has been estimated that bank credits amounted to U.S.$1.8 billion at the beginning of 1931, which were roughly equivalent to about 23% of long- term U.S. portfolio investments at the end of 1930. Germany was, once more, at the center of these operations: U.S. bankers supported state and private projects while expecting that the Young loan would revive the foreign bond market. When such an expectation vanished in 1931, the withdrawal of bank loans from Germany was avoided by the implementation of standstill agreements which froze foreign claims against Germany. Other countries in Central Europe and also in South America benefited from bank lending; Chile negotiated bank credits for about US$22 million, a non-negligible amount given the size of bond loans contracted by South America at that time, and other borrowers such as Peru negotiated much more modest bank credits.[72]

Colombia also got access to short-term bank lending, and the main operation became a clear precedent of conditionality exercised by foreign bankers. The country turned up to foreign banks since 1928 to alleviate Treasury difficulties. By 1930, official statistics indicated that the debt with U.S. banks amounted to U.S.$4.9 million, representing 7% of the total external debt of the national government. By 1931, this proportion had increased to 21% as a result of a single negotiation. [73] The loan agreement was made in June 1930, when by coincidence the issue of the Young loan created the expectation of a revival of U.S. foreign lending. This operation was the last access of the country to U.S. private foreign lending during the 1920s-1930s, and the first one celebrated with a bank syndicate. This sort of operations would not be repeated until the mid-1950s, and more systematically until the 1970s.

The syndicate was originally headed by the National City Bank of New York and the First National Bank of Boston, and later reinforced by the British branch of Lazard Brothers.[74] As a whole, the national government received US$16.9 million, although it was not the only beneficiary. The departmental governments made part of the ultimate beneficiaries and applied the proceeds of the loan to their external debt service. The negotiation of the loan and the disbursement of instalments were affected by the conditionality imposed by the banks. The bankers demanded a debt ceiling law, the continuity of government expenditure retrenchment so as to restablish budget balance, a reorganized management of the national railroads, and appointment of the same bankers as fiscal agents for the government. The bankers' demands were satisfied, and in particular a ceiling on the total of the external and internal debt was imposed; that ceiling meant that the total internal and external debt should not exceed an amount whose financial service was over 30% of the average fiscal revenues of the last six years.[75]

A context of tensions in which oil interests played an important part surrounded the disbursements of instalments.[76] There existed the possibility of holding back instalments so as to derive oil advantages, and signs of this pressure were felt when the government expected the last installment in March 1931. The intransigence of bankers exceeded any other pressures, however, to the point of provoking reactions from both the Colombian and U.S. governments. The Colombian president expressed his disappointment after having played "the game with the Americans" by accepting their conditions, and the U.S. ambassador expressed that "the best efforts of the Department of State and our diplomatic missions abroad may be almost nullified by prejudicial activities of American business concerns. I have in mind especially the recent action of the group of American bankers, which has had such an unfortunate effect on our interests here in general in Colombia...". [77]

To sum up, the Wall Street boom of 1928 truncated the continuity of U.S. overseas lending based on bond issues. Attempts made to restablish the foreign bond market after the Wall

Street crash proved to be ineffective; new flotations since 1932 were practically negligible. Short-term bank credits ephemerally flourished during 1931, and for many countries they were their last link with foreign capital markets. Current conditions in the world economy - economic and political- prevented the recovery of foreign lending. In particular, the debt servicing capabilities of most borrowers had been severely damaged by changes in relative prices and adverse demand shocks. It is to these disadvantageous events on the borrowers' side to which we now turn.

2. The downfall of terms of trade in the periphery.

World commodity prices had been slipping since 1925. For a diversity of causes, agricultural surpluses became evident in the second half of the 1920s.[78] According to a general index of all commodities, between 1925 and 1930 prices fell by 57% while stocks increased by 79%. How individual producers fared in this process depended not only on the fate of specific commodities -the "commodity lottery"-, but on policies of the producers.[79] The experience with coffee in the 1920s is illustrative at least in three respects. First, the price stabilization policies of Brazil, the dominant producer; second, the application of external debt to finance such policies; and third, the positive externalities of the same policies on other producers, particularly Colombia.

Various attempts to stabilize coffee prices during the 1920s with the support of external financing were associated with the so called "permanent defence" policy of coffee prices.[80] Towards the end of the decade, this policy was on the verge of collapse after exceptional harvests in 1927-28 and 1929-30. It was estimated that in late 1929 around 16 million bags of coffee remained unsold.[81] In these conditions, coffee prices which were shrinking since the first quarter of 1929, fell by one-third (from 22.5 cents to 15.5 cents of dollar per lb) only in the last quarter of the year. Coffee was not the only commodity badly hit. In the aftermath of the stock- market crash, various commodity prices fell sharply also in the last quarter of

1929: rubber by 20%, hides by 18%, zinc by 17%, cocoa by 15%, only to mention the most adversely affected.[82]

Authors like Kindleberger have underscored the role of bank credit rationing in the downturn of commodity prices. Accordingly, traditional domestic lending to merchants in the United States was cutback after the stock market crash, with the consequent adverse effects on demand for commodities.[83] It follows then, that rationed loans to importers of commodities could have compounded the eventually counterproductive effects of Brazilian policies on coffee prices. As seen before, the downfall of coffee prices largely exceeded those of other selected commodities.

Overwhelmed by financial difficulties, the Brazilian coffee sector turned again to the external credit.[84] The short-lived prospects of a rebirth of international lending towards the end of 1929 made easier a new approach between the State of Sao Paulo and foreign issue houses. A coalition of British merchant bankers and New York banks floated a £12 million (US$60 million) loan in European capitals, and a US$35 million in New York. Altogether, these sums made up the "coffee realization loan", whose dollar tranche with a maturity of 10 years was sold to US investors at a discount of 4%; when the loan was issued in April 1930 coffee prices had fallen by 38% since the simultaneous crisis of the Brazilian "permanent defense" policy and the New York stock-market crash in October 1929. The proceeds of the loan were applied to finance 16.5 million bags of unsold coffee in Brazilian warehouses. Though one of the conditions put forward by the bankers was that the State of Sao Paulo would have to abandon its price boosting-policies, it was the over-production of coffee which brought about the failure of interventionist policies.[85]

By the mid-1920s Colombia was already an important coffee producer. Her share in the U.S. coffee imports -given in terms of bags of 60kg- since the beginning of the century is illustrative; while during the 1905-14 period that share was only of 6.5% compared with 76.2% of Brazil, it evolved into 17.4% during the 1920-29 period compared with 65.9% of

Brazil.[86] Two factors contributed to Colombia's successful expansion in the international coffee market during (and beyond) the 1920s. First, the fact that coffee was predominantly produced in small farms in which families were significant suppliers of labor; and, second, the distinctive higher quality of the produce. The "valorization schemes" implemented by Brazil constituted an additional incentive for the expansion of coffee plantation in Colombia and other areas such as Central America. And when such a schemes broke down in 1929, Colombia and other beneficiaries of the Brazilian policies lived through the adverse effects of collapsing prices.

The deflationary spiral of commodity prices deepened along the 1929-1933 period. For debtor countries which derived from those commodities the trade surplus required to service the external debt, the severity of the shock was apparent by mid-1931. In two years (June 1929-June 1931) coffee prices had fallen by 60%, and most other commodity prices had fallen by magnitudes oscillating between 50% and 55% (cocoa, wheat, zinc, lead, cotton, silk), not to mention the extreme cases of rubber (70%) and copper (90%). Deflation had further adverse effects on debtor countries. Because the U.S. price level had fallen by 11% between 1929 and 1931 (for 1929-1933 the figure would be 24%), the real burden of the dollar denominated debt increased as the nominal contracts which estipulated fixed interest rates remained unaltered.[87]

In conclusion, although commodity prices were declining since the mid-1920s, they sharply dropped during the Great Depression. Debtor countries found themselves with export prices reduced by one-half between 1929 and 1931. Additionally, countries which borrowed during the U.S. lending boom saw their real debt burden enlarged as the deflation spiraled. One further item on prices was the significance of the collapse of domestic price stabilizing policies to explain the decline of commodity prices. In this respect, the breakdown of the Brazilian valorization schemes had a great deal of responsibility in the abrupt decline of coffee prices in 1929.

3. The adverse shock of the international business cycle.

If falling commodity prices impaired the debt-servicing ability of borrowers, an additional adverse shock which weakened even further the financial stance of indebted countries was the downswing of the quantum of exports. The relationship between center and periphery was crucial. The predominance of the United States at the center in the late 1920s has been documented; estimates reveal that in 1929 more than 50% of the industrial output of 15 major industrial countries had its origin in that country. And the vulnerability of the periphery with respect to the U.S. business cycle is revealed by the fact that also in 1929, the United States accounted for about 40% of the primary product consumption of the same group of industrialized countries.[88]

The downturn in advanced economies and its reflection on Latin America is illustrated in Table 31. Starting from the peak of businesses of the center economies in 1929 the slowdown reached its deepest point in 1932-33, but the pre-crisis levels of activity were recovered only until the second half of the 1930s. It is clear that import volumes in the center economies fell to deeper levels as compared with the downswing of output, and how they reacted only sluggishly to the upturn of the economy; analysts of the period have interpreted this lethargic revival of imports as a result of protectionist measures at the center.[89] Finally, a sharp change in relative prices in favour of the center economies occurred between 1929 and 1933; this adverse development for the periphery fully turned back by 1936, but reappeared at the end of the decade during the U.S. recession of 1937-38.

A variety of constrasts unfold the Latin American experience. The terms of trade initially fell sharply, and then remained stagnant at the bottom, until a slow recovery started in 1934. The export quantum also fell but less than the terms of trade, and a sustained recovery since 1934 reached the pre-crisis level of export quantum before the end of the 1930s. In other words, since 1934 at least, the recovery of the export quantum smoothed the negative effects of depressing terms of trade. The Latin American output declined since 1929 achieving its

TABLE 31

BUSINESS CYCLE INDICATORS
ADVANCED COUNTRIES AND LATIN AMERICA
1929-1938

	ADVANCED COUNTRIES[1]			LATIN AMERICA[2]			
	GDP	Import volume	Terms of trade	GDP	Import volume	Terms of trade	Export volume
1929	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1930	94.6	94.8	106.1	96.1	77.4	81.5	81.2
1931	89.3	89.5	111.8	90.0	51.9	67.9	90.0
1932	83.0	76.5	113.7	86.7	39.5	71.4	73.0
1933	84.0	78.4	114.8	93.2	45.5	68.8	75.7
1934	89.2	79.6	111.1	101.0	52.5	76.5	85.4
1935	94.3	81.8	108.0	106.3	56.4	75.2	91.9
1936	101.6	85.7	100.6	113.4	61.7	80.6	93.3
1937	107.0	97.4	103.9	120.8	76.8	89.1	101.8
1938	109.3	87.0	108.3	121.4	70.9*	84.9*	81.4*

NOTES:
1. GDP, Import volume and Terms of trade are weighted averages for 16 countries.
2. Weighted averages for Argentina, Brazil, Chile, Colombia, Cuba and Mexico.
* Excludes Cuba due to lack of data.

SOURCE:

Maddison (1985), pp. 13-14

lowest level in 1932. However, the pre-crisis levels of output were recovered since 1934, earlier than in the center economies. Strikingly, observers of the period have concluded that the favourable contrast with advanced economies was explained by the industrial performance of the periphery during the 1930s.[90]

Finally, it is seen how imports fell by more than 60% during the first and worse three years of the world recession; and though there was a gradual recovery through the rest of the decade, the import quantum was still 30% below its level in 1929. The drying up of external financing from 1928 was a major cause of the vertical reduction of the import quantum, since Latin America faced the complicated situation of having to service the external debt while living through declining terms of trade and without access to "fresh" external lending. Later, since 1933, due to the dynamic behaviour of exports, but most of all due to the generalized suspension of the debt service, the import quantum recovered steadily though far from achieving the level of 1929.

Table 32 exhibits foreign trade indicators for the four major South American recipients of external loans during the 1920s. As seen above, these countries appeared within the group of eight leading borrowers at that time. Different fortunes accompanied these countries during and after the Great Depression. The terms of trade (TOT) give an introduction to those differences. While every one suffered a deterioration of their TOT between 30% and 40% during 1929-33, Argentina recovered the pre-crisis levels since 1936; other fate affected the remaining countries whose TOT continued stagnant at levels similar to those of 1933. A different message is conveyed by the performance of exports: Brazil and Colombia, in that order, did not see their export quantum affected during the worst years of the crisis, while Chile faced a dramatic fall of hers; as seen, the Chilean export quantum in 1933 was only 29% of the level reached in 1929. Argentina was an intermediate case, closer to those of Brazil and Colombia, than to that of Chile.

A complementary idea is offered by the evolution of the

TABLE 32

FOREIGN TRADE INDICATORS
SELECTED SOUTH AMERICAN COUNTRIES
1929-1938

	ARGENTINA	BRAZIL	CHILE	COLOMBIA
A. TERMS OF TRADE				
1929	100.0	100.0	100.0	100.0
1930	95.9	61.6	95.7	73.6
1931	71.4	53.6	67.0	83.6
1932	74.5	67.5	55.1	72.9
1933	70.4	60.3	60.0	63.6
1934	85.7	62.9	57.3	81.4
1935	85.7	55.0	61.6	64.3
1936	105.1	54.3	70.3	64.3
1937	120.4	58.3	76.8	67.1
1938	110.2	43.0	54.1	60.0
B. PURCHASING POWER OF EXPORTS				
1929	100.0	100.0	100.0	100.0
1930	66.9	67.1	62.2	81.7
1931	68.5	62.0	40.5	80.3
1932	65.3	54.4	15.5	71.8
1933	58.1	59.5	25.0	63.4
1934	74.2	69.6	37.8	84.5
1935	78.2	70.9	41.9	73.2
1936	86.3	77.2	47.3	83.1
1937	115.3	74.7	73.0	84.5
1938	67.7	67.1	48.0	78.9
C. VOLUME OF IMPORTS				
1929	100.0	100.0	100.0	100.0
1930	87.8	59.4	92.0	52.3
1931	61.5	39.1	48.0	44.6
1932	46.8	36.2	17.0	36.9
1933	51.3	50.7	19.0	50.8
1934	56.4	55.1	25.0	63.1
1935	58.3	62.3	38.0	69.2
1936	61.5	63.8	43.0	78.5
1937	80.8	78.3	48.0	90.8
1938	76.3	72.5	44.0	84.6
D. VOLUME OF EXPORTS				
1929	100.0	100.0	100.0	100.0
1930	69.3	109.6	65.0	109.8
1931	95.3	117.3	60.0	96.1
1932	87.4	80.8	28.8	98.0
1933	81.9	100.0	41.3	98.0
1934	85.8	111.5	66.3	103.9
1935	90.6	128.9	67.5	113.7
1936	81.9	142.3	67.5	127.5
1937	95.6	128.8	95.0	125.5
1938	61.4	155.8	88.8	131.4

SOURCE: Maddison (1985), p.87

purchasing power of exports (PPE). As expected, Chile presents the worst results of the group due to the misfortune of her real exports. At the other extreme, Colombia exhibits the best results based principally on the good fortune of her real exports. Colombia fared slightly better than Argentina in spite of the superior behavior of the Argentinian TOT. Finally, if the Chilean PPE conditioned her import quantum, that was not the case of Brazil and Colombia. In the Colombian experience, the import quantum fell far more rapidly than the PPE. During the critical years 1930-33 the Colombian import quantum was less than a half of the 1929 level. At that time, it was the cessation of foreign lending combined with an increased debt burden due to the deterioration of the TOT what led to the 50% fall in the import quantum.

As U.S. lending dried out since 1928 and exports of primary producers fell down during the Great Depression, the standard sovereign debt-export ratios soared. The figures for the four major South American borrowers between 1928 and 1931 when the wave of defaulting countries began spreading around the region are eloquent. As for Brazil, the major Latin American debtor, the ratio for the total external debt went up from 2.6 in 1928 to 5.6 in 1931. This upsurge was explained by just an 8% increase in the stock of debt combined with a reduction of 50% in the flow of exports. In the Chilean case, the ratio for the national debt only raised from 1.1 in 1928 to 3.2 in 1931 after a 23% increase in the stock of debt accompanied by a 58% decline of exports. In the Colombian experience, the ratio for the total external public debt increased from 1.2 in 1928 to 1.8 in 1931 after only a 3.8% increase in debt combined with a 28% reduction in exports. Finally, in the Argentinian case, and considering the national debt only, the debt export ratio raised from 1.04 to 1.31, because although the stock of debt significantly fell by 33%, exports fell even more heavily by 47%.[91]

Although the magnitude of the external shocks severely impaired the ability to pay of debtor countries, the individual degree of vulnerability to those shocks also depended on factors not directly associated with the PPE. Domestic policies have been reported to have had some responsibility for individual debt-servicing difficulties. Eichengreen and Portes (1986) found

that countries which ran more austere fiscal policies were less prone to suspend debt payments. Also, more highly indebted countries were more likely to stop debt payments. Finally, factors of international politics made a difference (Diaz-Alejandro, 1983). Apart from countries in the military orbit of the United States, other international relations secured the continuity of debt service payments. Argentina was the outstanding case after the acceptance of a treaty with Britain (the Roca-Runciman treaty of 1933) which guaranteed the service of the sterling debt in exchange for the purchase of Argentine exports.

F. The main international creditors in 1930

What was the distribution of foreign investments at the end of the U.S. lending boom? Great Britain was still the major international investor after the assets' liquidation during the First World War, and the huge foreign investments of the United States in the 1920s. Rough estimates of total investments of both countries and their geographical distribution are given in tables 33 and 34.

TABLE 33
Long-term Investments Abroad
Great Britain
1930

	Millions of US$	Per cent
1. British Empire.	10633.2	58.7
Australia	2401.8	13.3
India and Ceilon	2625.5	14.5
Canada	2552.6	14.1
South Africa	1278.7	7.1
Other Countries	1774.6	9.8
2. Independent Countries.	7482.6	41.3
European countries	1434.3	7.9
Argentina	2187.9	12.1
Brazil	923.8	5.1
Rest of South America	646.6	3.6
Mexico and Central America	286.9	1.6
United States	977.3	5.4
Japan	359.8	2.0
Other countries	666.0	3.7
TOTAL.	18115.8	100.0

Source:
The Royal Institute (1937), p. 142
The original data in sterling pounds were converted into dollars at the 1930 rate of US$4.862 per £1.

TABLE 34

LONG-TERM INVESTMENTS ABROAD
UNITED STATES
1930

(Millions of US$)

REGIONS	DIRECT INVESTMENT	PORTFOLIO INVESTMENT	TOTAL	PER CENT OF WORLD TOTAL
EUROPE	1468	3461	4929	31.4
France	162	310	472	3.1
Germany	244	1177	1421	9.1
Great Britain	497	144	641	3.9
Other	565	1830	2395	15.3
CANADA	2049	1893	3942	25.2
LATIN AMERICA	3634	1610	5244	33.5
Cuba	936	131	1067	6.8
Mexico	694	-	694	4.4
Argentina	359	449	808	5.2
Brazil	210	347	557	3.5
Chile	441	260	701	4.5
Colombia	130	172	302	1.9
Other	864	251	1115	7.2
ASIA, AFRICA OCEANIA	690	870	1560	9.9
Australia	155	264	419	2.7
Japan	62	383	445	2.8
Other	473	223	696	4.4
TOTAL	7841	7834	15675	100.0

SOURCE:
The Royal Institute (1937), p.187

According to tables 33 and 34, British investments represented 54% out of a total of US$33.8 billion in 1930. It is to be noted, however, that British investments were slightly lower in 1930 than they had been in 1913.[92] But if it is true that the nominal stock of British investments remained practically unchanged between 1913 and 1930, it is also true that there happened important changes in its composition.

The main variation was the substantial reduction of nominal investments in the United States from US$3667 million in 1913 to US$977.3 million in 1930, which implied a reduction of the proportion of those investments from 20% in 1913 to just 5.4% in 1930 (tables 14 and 33). This liquidation of assets was compensated in about three-quarters by increased investments in members of the Empire. As a result, the corresponding share increased from 47.3% in 1913 to 58.7% in 1930. Investments in other regions registered slight changes; such was the case of those in Latin America which passed from 20.1% in 1913 to 22.5% in 1930.

A different shape is observed in U.S. investments, where one-third of them were allocated in Latin America, closely followed by European investments; one-fourth of investments went to Canada, and only 10% to countries in Africa, Asia and Oceania. By consolidating British and U.S. investments it appears that 48% went to countries which happened to be members of the British Empire; even excluding Canada, the most important single beneficiary with one-fifth of total investments, and in spite of a relatively low U.S. interest in these regions, Empire countries collected 30% of investments. Latin America offers a more equilibrated picture, regardless of the strong U.S. investment of the 1920s; in fact, 44% of foreign investments in the region was of British origin. As a whole, Latin America gathered 28% of total investments.

The liquidation of British foreign assets -direct investments and loans to independent countries- and increasing lending to Dominion and Colonial countries is shown in Table 35. The fact that direct investments represented 70% of international assets in 1913 was interpreted as an indicator of the British emphasis in developmental finance as opposed to

revenue finance. The outbreak of the war put an end to that tendency. A substantial liquidation of assets in railways, particularly in the United States, reduced the share of this sector in total overseas investments from 41% in 1913 to 23% in 1930. Because railways constituted the leading sector of British investments abroad, their breakdown led direct investments to represent just 53% of total overseas assets in 1930.[93]

TABLE 35

GREAT BRITAIN
LONG-TERM INVESTMENTS ABROAD
TYPE OF INVESTMENT
1913 AND 1930
(MILLIONS OF US$)

	1913	%	1930	%
A. GOVERNMENT AND MUNICIPAL	5467	30.0	6988	38.6
DOMINION AND COLONIAL	3283	18.0	5253	29.0
FOREIGN	2184	12.0	1734	9.6
B. DIRECT INVESTMENT	12821	70.0	9662	53.3
BRITISH COMPANIES	N.A.		5857	32.3
FOREIGN AND COLONIAL COMPANIES	N.A.		3805	21.0
C. INVESTMENTS NOT DISTRIBUTED BY TYPE			1465	8.1
TOTAL	18288	100.0	18115	100.0

SOURCES:
Royal Institute (1937), pp.148 and 150
Exchange Rates: 1913, US$4.8595 per £1. 1930, US$4.862 per £1.
N.A.: not available

G. Conclusions and links with other sections of this work.

The central hypothesis of this section is the cyclical character of the foreign lending process. Certainly this hypothesis does not deal with the question of why capital export volumes have varied over a series of foreign lending booms since the 19th century, but proved helpful in the reconstruction of the long-term relationship between Latin American borrowers and their creditors since the 1820s to the 1920s.

The access of Latin America to external lending during the period under scrutiny was dominated by alternating phases of boom and bust in international capital markets. Relationships between creditors and debtors were frequently affected by breach of formal debt contracts or default, but renegotiations appeared to be the device through which the long-term relationship between creditors and debtors was restablished. Our perusal of the period of Pax Britannica (the lending cycle of the 1820s and the cycles of British capital exports between the 1860s and 1913) offer historical support to this claim.

We have deliberately highlighted the transit from the Pax Britannica to the Pax Americana. From the Latin American perspective that transit was not only a shift of foreign financial centres, but a change of axis of international politics. After the collapse of the U.S. long-term foreign lending in 1928, and the wave of sovereign defaults in the 1930s, the U.S. diplomacy played a crucial role in the restablishment of the creditor-debtor relationship. Later, after World War II, U.S. international agencies provided concessionary lending to Latin America until the revival of foreign private lending in the 1970s.

Colombia appeared in the scene of major international borrowers during the first modern cycle of British capital exports in the 1820s, before becoming a minor and ocassional borrower for most of the Pax Britannica. The main Latin American protagonists on the borrowing side were Argentina, Brazil, Mexico and Peru which became important suppliers of British goods markets. These countries stood out not only because of the magnitude of

their borrowing, but because of the variety of negotiating experiences between creditors and debtors. A good deal of recent literature on debt recontracting has relied upon the chronicles of negotiations during the Pax Britannica. Colombia came forth again as an outstanding debtor during the U.S. lending boom of the 1920s. After the Wall Street crash and the collapse of the U.S. foreign lending, Colombia joined the list of sovereign defaulters. The available records show that this time default was a partial and gradual experience.

For an historical analyst of external debt, the next section should be dedicated to the renegotiation of the debt contracts which were defaulted in the 1930s. Our case is different, however, since as explained in Part II and Part III of this work, the internal public debt played a role on its own, which was particularly meaningful during the great depression of the 1930s. Thus, in the next section we will discuss how did Colombia react to the external shocks of the time, and how the shock-absorber function of the internal public debt took place through actual policy measures. We will also explain how regarding the external debt, default came about as a drawn out process during which authorities insisted on the temporary character of the suspension of external debt payments.

The renegotiation of the loans which went into default after the U.S. foreign lending boom came to a halt, will be the exclusive topic of Section III below. The reader will be informed of the bargaining process through which debtors and creditors restablished their long-term relationship.

SECTION I

NOTES

1. Fishlow (1986) bases his "lessons from the past" on a review of the experience of Germany, the United Kingdom, and the United States. More recently Eichengreen (1991) has included other six rapidly industrializing countries, namely, Canada, Denmark, Germany, Italy, Norway and Sweden. The broad trends, however, remain similar.

2. Eichengreen (1991) has examined the relative merits of three hypotheses about changes in the extent of capital flows. One school of thought sees capital flows as a direct function of the international monetary stability. A more stable financial system encourages an increased extent of capital flows. Another school of thought suggests the existence of a stage process through which countries would evolve from debtors to creditors. The classical example is the United States since the mid-1800s. Finally, the third school focuses on the cycles of international lending. Booms of international lending are followed by periods of paralysis in foreign lending. Historical examples are the international lending cycles of the 1920s-1930s and the 1970s-1980s.

3. Capital calls are defined as "the actual payments made by British investors in acquiring foreign and colonial issues" Simon (1968) p.19

4. The figure for France is documented in Green and Urquhart, (1976).

5. This characterization of the main creditors draws heavily on the classical work by Feis ([1930], 1974), Chapters 1 to 4, and the review of foreign investments before World War I in Royal Institute of International Affairs (1937), Chapter 9.

6. In the mid-19th century, however, European securities were a predominant component of the British portfolio of foreign investments. Early estimates due to Jenks indicated that in the mid-1850s about 57% of the stock of British foreign investment was represented by European issues and the rest by U.S. securities (25%) and Latin American bonds (18%). Additionally, 23% of the total investment and 41% of the investment in European issues was in government debt (French, Belgian, Dutch and Russian securities). Jenks ([1927], 1963), p.413.

7. These topics are discussed in Hall (1968).

8. A discussion of institutional changes associated with the formation of the international economy in the 1800s is found in North (1962).

9. Center and periphery were integrated in various ways. Not only capital exports were significantly chaneled to the construction of ports and railroads for the exporting of goods and raw materials, but labour immigration enhanced the productive capacity of capital importers. Furthermore, trade and finance coincided whenever foreign investments were destined to the purchase of capital goods, and through the finance of the debt service with exports proceeds. A full discussion of these aspects is made by Fishlow (1985)

10. The inverse movement of the two series is clearly observable in most years after 1870.

11. Since Britain's capital exports were positively correlated with British labour emigration, and with capital formation -railways and public utilities- in overseas areas, alternative

hypotheses have emphasized the role of either demografic factors or the long gestation period of social-overhead investments in the determination of the long swings of British investment flows. A review of the debate is found in Hall (1968).

12. Edelstein (1982) p.149 launched the hypothesis according to which realized rates of return -at home and overseas- could reflect the long swings in investment flows. According to this hypothesis, realized returns would have risen because of the emergence of unanticipated opportunities and the competition of factors of production trying to take advantage of these opportunities.

13. Edelstein (1982), Chapter 6.

14. Gayer, Rostow, and Schwartz (1953) p.171

15. Two important measures were adopted in 1822, namely, the extension of the privilege to issue bank notes to the country banks, and the reduction of the discount rate of the Bank of England which for the first time dropped to 4%. These episodes were followed in 1823 by a partial conversion of public debt aimed to reduce the interest burden. The results of these actions were felt in 1824-25. While the Bank's note issues rose steadily between 1822 and 1825, country banks circulation which represented a 23% of the note circulation of the Bank of England in 1822, reached a 43% in 1825. The stock market boomed as far as the availability of cheap money increased and former holders of public debt looked for new investment alternatives. Gayer et al (1953) pp. 185
and 202.

16. The full amount of nominal credits contracted by Latin American governments, £20 million, largely exagerates the sums paid-in by investors and the sums finally received by debtors. Given an average price to the public of 80% the sums received by bankers were of about £16 million, and according to estimates by Rippy, debtors did not obtain much more than £12 million. Apart from short-term sinking funds, the difference is explained by commissions and other deductions. The magnitude of such commissions is illustrated by the fact that Colombia paid £0.5 million to her bankers, equivalent to 7.3% of the contracted amount. Rippy (1959), Jenks ([1927], 1963), p.49

17. Brazil became the main Latin American importer of British goods, with an average of 40% of total imports of the region between 1825 and 1850. Marichal (1989) p.49 . Detailed information about trade between Britain and Brazil is offered for selected dates in Woodruff (1966), Statistical Appendix.

18. In 1825, 75% of Gran Colombia's government outlays was destined to military objectives. Ocampo (1988) p.114

19.The British recognition was antedated by a similar decision adopted by the United States in 1822 when this country recognized the independence of the Gran Colombia. Details about the British recognition are offered in Dawson (1990), Chapters 4 and 5.

20. These settlements were followed by various suspensions and renegotiations during the 1840s and 1850s. Venezuela defaulted in 1847 and although temporary agreements and payments were made in 1851, a global settlement was deferred until 1859. Ecuador fully complied with the 1855 arrangement until payments were suspended in 1868. Colombia started punctual payments after the Powles-Ordóñez convention was signed in 1845. As the government faced cash problems in 1848-49, creditors were offered Treasury Bills for the coupons due during those years. Coupon payments were suspended during 1851-54, but in 1855 the British creditors accepted Peruvian bonds in the hands of the Colombian Treasury in exchange for coupons unpaid between 1850 and 1853. Finally, a new settlement -the Convention of Paris- was signed in 1861, which stated that the Colombian debt amounted to £7.4 million, and determined new conditions for the resumption of debt service. CFB(1938)

pp.173-74 for Gran Colombia and Colombia; pp.209-10 for Ecuador; pp. 505-06 for Venezuela.

21. In 1825, 1840 and 1865, government loans represented 84.5%, 76.5%, and 76.3% respectively. Stone (1968) p.315 and Stone (1977) p.694.

22. The sectoral distribution of British investments in Latin America shown in Table 18 and based on Stone (1968) differs from earlier estimates published by Rippy (1959). According to this author (p.68), in 1913 total investments amounted to £999.4 million -instead of £1180 million as in Table 18-, government loans amounted to 31.7% of investments, and railways to 45.8%. This distribution not only changes the relative importance of the two main sectoral investments but leaves railways as the single predominant investment. Stone(1968) estimates are based on a more recent revision of primary information.

23. The relatively huge Mexican balance is explained by successive conversions of the loans contracted in the 1820s (£6.4 million according to Table 16) and a big credit (£8.0 million) negotiated by the Maximilian government in 1865, aimed to consolidate the French intervention in Mexico. The Brazilian balance, the second in magnitude, is principally explained by early credits (1858 and 1860 for a total of £2.8 million) to finance railways, and by a large military loan (£7.0 million negotiated in 1865) destined to finance the Paraguayan War. For Mexico, Aggarwal (1989) p.144 and CFB(1938) p.329; and for Brazil, Marichal (1989), pp.90-94.

24. The information about Colombia and Venezuela was consulted in CFB(1938) pp. 175 and 506, and in Marichal (1989) p.80. For Brazil, Chile and Cuba, Marichal (1989), Chapter 3.

25. The pioneering role of British railway technology and finance is documented by Woodruff (1966), Chapter 6. Jenks ([1927], 1963) p. 413 showed how in the mid-1850s, 12.9% of British foreign investments was concentrated in French railways. The high investment demands associated with the regional integration and urbanization of the U.S. economy is highlighted by Edelstein (1982) pp. 290-95. Stone (1968) pp.318-22 describes the renaissance of British investment in Latin America around 1865.

26. Kindleberger (1989), p.144

27. Kindleberger (1989), p.145-46

28. As documented by Feis ([1930], 1974) pp. 313-315, between 1854 and 1875 Turkey contracted an external debt of about 200 million Turkish pounds (worth $4.40 at par according to Feis), of which she received no more than 60%. Payments were reduced in 1875 and suspended in 1876. By 1881, principal and interest arrears amounted to 252 million Turkish pounds. This amount was reduced to 117 million as a result of an agreement achieved under plans for international financial control set in motion by European powers.

29. Marichal (1989) pp. 104-110. Stone (1968) pp. 326-327.

30. Marichal (1989) pp.85-90

31. CFB (1938) p.175

32. These calculations are based on annual capital calls distributed by continents. As before, the source is Simon (1968), Appendix I.

33. Marichal (1989) p.119-125

34. Calculations based on Simon (1968), Appendix I.

35. In 1886 the existing sterling debt was consolidated, and its value reduced from £22 million to £14 million. This new debt was eventually redeemed by a cash payment of £5.5 million in 1888. Aggarwal (1989) p.176. CFB(1938) p.330.

36. The general reference for the international debt problem brought about by World War I, and further negotiations and agreements is Moulton and Pasvolsky (1932). A description of the consecutive phases of foreign lending during and after the war is found in Lewis (1938). Kindleberger (1984) discusses the sources of financing of the war, the financial plans to rescue foreign trade after the war, and the facts and controversy around the reparations issue. Our descriptions heavily draw on these accounts.

37. Lewis (1938) p.358 documents how the Allies negotiated consecutive loans under increasingly softer conditions as the first phase of the war went along. Five loans contracted between October 1915 and February 1917, which amounted to US$1360 million (57% of the short-term loans of the period) with interest rates varying between 5% and 6%, were taken by the public at an average discount of 1.2% and by the bankers at an average discount of 3.1%. However, it has to be noted that in most cases borrowers were asked to deposit collateral securities which exceeded the face value of the loans.

38. Lewis (1938) p.362

39. Moulton and Pasvolsky (1932), Chapter 5.

40. This does not mean that private lending was negligible immediately after the end of the war, but only that the net value of private loans disbursed during 1922-24 had no comparable precedent since the U.S. war declaration in 1917. More even, since 1917 up to 1921, only in this last year new disbursements exceeded repayments, and for the period as a whole (1917-21), net repayments amounted to US$468.1 million. This figure sharply contrasts with the net amounts loaned during 1922-24 which came to US$1736.2 million. Calculations based on Lewis (1938) p.368.

41. Canada, Japan, a group of European countries -mainly Norway, the Netherlands and Czechoslovakia-, and Latin America, in that order, were the beneficiaries of 80% of the net amounts disbursed during 1922-1924. It is worth mentioning that Canada was the main net borrower during 1917-1924, while the major borrowers of the war years -Great Britain and France- became net repayers. In fact, these net repayments completely wiped out the short-term borrowing contracted during the first phase. It has to be also observed that Germany, and to a lesser extent Austria and Hungary (former enemy powers) became borrowers since 1923. Austria and Hungary floated loans under the auspices of the League of Nations, and Germany followed suit after the implementation of the Dawes Plan.

42. The Dawes Plan was conceived in April 1924 to facilitate the German Reparations. An important consideration was the Germany's capacity to pay, since the issue of the negotiation was shifted from what Germany should pay to what she could pay (Moulton and Pasvolsky, 1938, p.161). The Plan provided a reparation schedule according to which payments were to begin with 1 billion marks (some US$0.27 billion) the first year, gradually increasing to 2.5 billion marks (some US$0.675 billion) in the fifth year. The Plan also provided for an initial recycling operation of some US$200 million, of which US$110 million were sold in New Yok, having been oversubscribed 10 times! Kindleberger (1984) pp.302-303.

43. An important source of foreign financing for the belligerents was the sale of foreign assets. It has been estimated that Great Britain reduced her foreign investments in about £850 million (US$3520 million) between 1915 and 1921, of which over two-thirds were placed in the United States (some US$2350 million). The Royal Institute (1937, p.130)

44. It can be observed that private liabilities in 1929 were twice as great as they were in 1924. How can this substantial increase be explained during the U.S. loan boom period? Lewis (1938) p.450, has documented that the increase was mostly caused by the accumulation of

proceeds of U.S. loans still in American banks waiting to be transferred abroad, and by appreciation of the value of foreign securities.

45. The comparison is just illustrative since the methodologies and data employed in Graph 26 and Table 19 are different. Basically, in Table 19 it is the stock of assets which is set against liabilities, while in the graph it is the net flow of capital exports which is weighted by the size of the economy. According to the moving averages on which the graph is based, the average percentage ratio of net capital exports to GNP during the first decade after the outbreak of the war was 0.9%, while the relevant figure for the 1920s was 0.8%. The growth rates of the economy did not make an important difference since while the average figure for 1914-24 was 3.1%, the relevant percentage for 1920-29 was 3.6%.

46. Calculations based on the series of new capital issues in London on overseas account published by the Royal Institute (1937) p.134, and the series of overseas securities offered in New York detailed in Table 20 of this section.

47. French and Belgian troops invaded the industrial province of Ruhr in January 1923 on the grounds that Germany's reparation payments had fallen into arrears. Germany was supposed to be fulfilling the "agreement" with the Allies of May 1921 according to which war reparations would amount to 132 billion gold marks (some US$33 billion) plus 26% in export taxes over 42 years. The recognition of the failure of military intervention to restore payments led the Allies to design the Dawes Plan at the heart of which was the Dawes Loan. Moulton and Pasvolsky (1932) pp.270-272, Kindleberger (1984) pp.298-301.

48. The Young Plan signed in 1930 made a "final and definitive settlement" according to which the total reparation bill amounted to 121 billion gold marks and was to be paid over 59 years. Because of Germany's current need of foreign credit, a US$300 million was issued in June 1930. Two-thirds of the proceeds of the loan were to be distributed among the reparation creditors, and one-third was to be invested in Germany. Moulton and Pasvolsky (1932), Chapters 10 and 12.

49. The Colonial Stocks Acts stimulated the investment in securities issued by the British Empire and Commonwealth countries. These securities were given trustee status, and therefore borrowers were able to borrow more cheaply in London. An important condition was for the borrowers not to issue any legislation against the interest of final investors. Additionally, some securities were guaranteed by the British government. According to estimates by the Royal Institute (1937) p.149, Dominion and Colonial government securities represented 75% of a total of £1.4 billion of British investments in foreign securities in 1930.

50. The evidence about the average contractual rate paid by Canada is taken from Lewis (1938), Appendix E, p.646.

51. White (1985) p.485

52. Paraguay and Ecuador did not share in the U.S. lending boom of the 1920s. Furtherly, Paraguay did not receive any external financing during the period. Ecuador's only external loan during the 1920s was obtained from an European creditor, the Swedish Match Company in 1927. The credit for 10 million sucres was intended to finance the initial capital of a Mortgage Bank, according to a recommendation of a Kemmerer mission which visited the country in 1926-27. The loan was granted in exchange for the monopoly on matches for 25 years. CFB (1938) pp.220 and 358.

53. During the years 1915-1919 South America received around US$195 million of which nearly 70% was destined to Argentina. At least one-sixth of these resources was applied to retire Argentinian debts due in London. Lewis (1938, p.356 and Appendix E1).

54. The estimates are based on information about the nominal amounts and purpose of U.S. loans to Latin America in the 1920s. The list of loans is provided in Marichal (1989), Appendix C.

55. CFB (1938) pp.80-81 and White (1986) p.486

56. Royal Institute (1937) p.134. Details about the substitution of external for internal debt in Brazil are offered in Villanova and Suzigan (1973) p.340.

57. Lewis (1938) p.383

58. Data for Chile and Colombia are found in United Nations (1948), pp.38 and 42.

59. Considering Latin America as a whole, the three sectors which attracted most U.S. investments as of 1929 were agriculture, mining, and petroleum, with 24%, 22%, and 20% respectively of the total stock of investments. About 75% of agricultural investments were concentrated in sugar plantations, and most of them -83%- were located in only one country: Cuba. Regarding South America alone, U.S. investments mainly focused on industrial minerals (excluding oil), and on oil production. As for the former sector, South America concentrated 75% of the U.S. investments in Latin America, and 50% of the U.S. world investments; Chile in particular attracted 80% of the U.S. investments in the region. As for oil production, South America collected 68% of the U.S. investments in Latin America, and 52% of the U.S. world investments; Venezuela concentrated 54% of the investments in the region, followed by Colombia with 31%. Lewis (1938) Appendix D.

60. There was a crucial difference between U.S. bankers in the second-half of the 19th century, and the same bankers during the 1920s. While in the past century they roamed Europe searching for foreign lenders, during the lending boom of 1925-29 "they were searching the world over for foreign borrowers". Lewis, C.(1938) p.377. The Latin American experience with U.S. bankers in the 1920s has offered evidence to loan-push theories. Darity (1985)

61. Bankers more harshly discriminated against South American loans than the ultimate investors did. While investors paid an average price of 96.7% on all loans, the average price paid on South American loans was barely lower, namely, 96.5%. Instead, while bankers paid an average price of 93.4% on all loans, the average price on South American loans was 92.1%. It is interesting to note that Central American countries -Cuba, Panama, Dominican Republic-, ranked first in terms of the highest prices paid by investors -98.1%-, and second regarding the smallest bankers' spread. The figures then suggest that lenders granted a more favourable treatment to the Central American borrowers, compared with the South American clients. These calculations are based on Lewis (1938), Appendix E.3

62. The Royal Institute (1937) pp.186-187. Proximity and political factors shed some light with respect to the aforementioned cases but do not seem to account for other experiences such as that of South America. While ultimate investors required from South America the same discount that they demanded from European borrowers -3.5%- bankers obtained the highest commission from the South American loans. It can be hypothesized that bankers assigned a major risk to the Latin American countries, particularly to the less well-known provincial and municipal governments.

63. Lewis (1938) pp.378-379 provides a variety of examples of the association between constructors and bankers in different borrowing areas. Regarding South America, the following paragraph is illustrative:

> "The big American construction companies sometimes helped finance public works in foreign countries, sometimes secured their contracts on a competitive basis after the financing had been arranged. Ulen

> and Co. usually worked with an associated group of bankers, financing and building public works throughout the world:...; irrigation works in Chile; and port works in Colombia. Frederick Snare and Co. helped finance some of their contracts in South America, for example in Peru. Warren Bros., working under contracts secured on a competitive basis, were building roads in Argentina, Chile, Colombia, Cuba and Guatemala. The Foundation Company was building roads, sanitation works, and public buildings for the national governments of Peru and Bolivia, and some public works in Argentina, Chile and Colombia ..."

64. Stallings (1987), Appendix III

65. Eichengreen (1992), p.188

66. By 1925, 23% of total coffee bags of 60 kg. was produced in Antioquia, the second most important producer after Caldas with 27%. As seen, these two neighbouring regions concentrated one-half of the total coffee production. Ocampo (1988), p.178.

67. Testimony before the Senate Committee on Finance investigating the sale of foreign securities in the United States, 1932. Quoted by Lewis (1938) p.377

68. Statement quoted by Drake (1989), p.58

69. Lewis (1938), p.381

70. Aldcroft (1987) pp.84-86

71. Short-term credits to Argentina in 1930 amounted to US$135 million, representing 65% of short-term loans received by all countries during that year. Lewis (1938), Appendix E, pp.623 and 629.

72. Estimates due to Lewis (1938) pp.395-396.

73. Informe Financiero del Contralor. Annual Reports, 1928 through 1932.

74. The members of the syndicate were: The National City Bank of New York and its affiliate The National City Co.; The First National Bank of Boston and its affiliate The First National Old Colony Corporation; Lazard Brothers and Co., Ltd., London, on their behalf and on behalf of Lazard Frères & Cie., Paris; Continental Illinois Co., affiliated to the Continental Illinois Bank and Trust Co., Chicago; International Manhattan Co., Inc. affiliated to International Acceptance Bank, Inc., New York.

75. Law 75 of 1930. Pérez (1990) Part II, p.84

76. Links between the "oil issue" and U.S. lending to Colombia were not new. It has been documented that in the mid-1920s the U.S. government discouraged some loans to Colombia until concessions were granted to the U.S. company, Gulf Oil. Drake (1989), p.56. Later, in 1929, the British Embassy at Bogota informed that with the encouragement of the State and Commerce Departments, issue houses were denying loans to Colombia and driving down the prices of Colombian bonds to obtain oil concessions. These facts are quoted by Eichengreen (1986),p.72

77. According to documentation quoted by Drake (1989) p.66, President Olaya complained to the U.S. ambassador in the following terms: "I have tried to play the game with the

Americans; I have had the oil law they wanted passed, the Barco Contract [Gulf Oil concession] signed, have tried to protect American interests on tariff, etc., etc. It breaks my heart to have Americans let me down at the end."

78. An important factor was the disruption of agricultural production caused by World War I. The decline of food production in Europe encouraged other areas -United States, Canada, South America, Australia- to expand their own supplies. In this context, the postwar restoration of European agriculture led to accumulating surpluses, increasing stocks and falling prices. Technological advances of the time, from fertilizers to more efficient farm machinery, further increased world supplies. A second factor was the length of the gestation period of some staples; while planting coincided with high prices of primary commodities during 1916-20, marketable harvests were not available until the mid-1920s. Garraty (1986)

79. Kindleberger (1986) p. 76. Diaz-Alejandro (1983) p.6

80. The first stabilization policies, called "valorization schemes" were applied early in the century (1906) with the purpose of insulating the internal price from changes in world demand and from the effects of changing climatic conditions on production. The scheme was applied for the first time in 1907 to buy up a bumper crop with internal financing. Later, higher external coffee prices brought about by a favourable shift in world demand, lasted since 1909 until the markets retreat during World War I. Dwindling prices during the war, and the perspective of bumper crops in 1917-18 led to the second valorization scheme; the success of this plan was reinforced by a natural accident -a big frost which destroyed part of the crops-, and the boom of foodstuffs after the war. In 1921 an expected big bumper crop led the government to buy up more than one-third of the harvest, and external financing was a vital source in the process. In 1922, a credit for £9 million was used to refund internal and external debts; this external support played part in the institutionalization of the so called "permanent defense" policy of coffee prices. Villanova and Suzigan (1973), sections 3.3, 4.4, and 5.3.

81. In 1924, the Sao Paulo Coffee Institute was set up to implement the "permanent defence" policy by means of buying up excessive harvests, storing them, and selling them in periods of rising prices. In 1926 the British branch of Lazard Brothers - a banking house closely related to the floating of external credits to Brazil and Colombia, and with businesses in the international coffee trade- arranged the issue of a £10 million loan to the Institute. This loan, intended to support the Institute policies, provoked the protest of the U.S. government which considered that attempts to hold up coffee prices were in conflict with the interests of U.S. consumers. Marichal (1989) p.196. The permanent defence policy broke down in the late 1920s. An unprecedented crop in the coffee year 1927-1928 led the Institute to adopt a policy of subsidies to the coffee growers. The Banco do Estado, created with the resources of the Lazard loan of 1926, was authorized to pay about £1.5 per bag of coffee. The "permanent defence" policy collapsed at the beginning of the coffee year 1929-30. It was expected a crop even greater than that of 1927-28, and the Banco do Estado found itself on the verge of bankruptcy; in fact, since the exceptional harvest of 1927-28, an enormous quantity of unsold coffee had been stored in warehouses. It was estimated that in late 1929 around 16 million bags of coffee remained unsold, with the obvious adverse financial implications on the Banco do Estado. Villanova and Suzigan (1973), sections 5.3 and 6.3.2.

82. Kindleberger (1986) p.139

83. The argument is based on usual trade procedures of the time and on the reaction of the New York banks to the withdrawal of call-money from the stock market. Commodities were shipped on consignment, and commodity brokers based their purchases on bank loans. After the stock-market crash some participants in the call-loan market -firms, individuals, out-of-town banks- retreated and the New York banks took their place. This movement implied the cutback in lending to merchants, and consequently the adverse effect on demand for commodities and falling prices.

84. Additional financial difficulties threatened the coffee sector and also the banking sector: the coffee growers lacked funds to finance the transport to seaports and commercial banks which had previously financed the coffee growers exhibited cash shortages. On top of that, the government rejected the idea of "rescuing" the coffee sector by means of increases in the money supply, given the current policy of exchange and monetary stability. The only way out of the immediate financial pressures was the external credit, a difficult enterprise given the current international credit crunch. Villanova and Suzigan (1973), section 6.3.2.

85. Kindleberger (1985), Marichal (1989) p.196. Abreu (1978-79), p.30, indicates that only £8.5 million were obtained from the European floatation and therefore the government had to start buying coffee with internal resources in 1931.

86. Ocampo and Montenegro (1982), p.52

87. Kindleberger (1986), p.139 and 186. U.S. Department of Commerce (1976).

88. Eichengreen and Portes (1986), p.612

89. Diaz-Alejandro (1984), p.21, was particularly emphatic on this point: "The emergence of a protectionist and nationalistic center was the greatest shock to Latin American economies during the 1930s, going beyond its direct negative impact on the region's terms of trade" The central protectionist measures under discussion were the American Smoot-Hawley tariff of 1930 and the British Abnormal Importations Act of 1931.

90. Diaz-Alejandro (1983), p.9

91. Data for Brazil was taken from Villanova and Suzigan (1973); for Chile from United Nations (1948) and League of Nations, Annual Statistical Yearbook (1933); and for Argentina from League of Nations, Annual Statistical Yearbook (1933).

92. According to Feis ([1930], 1974) estimates, British investments in 1913 amounted to £3763.3 million, or US$ 18,288 million. According to Table 14, 47.3% of investments were allocated in members of the British Empire -including Canada-.

93. Royal Institute (1937) pp. 122, 148, 153.

SECTION II

The Public Debt in Colombia during the Great Depression, 1929-1934

Introduction

The world crisis of the 1930s in Latin America has attracted the attention of international economists and other social scientists. Classical examples of this literature are due to Díaz-Alejandro (1982, 1983) and Thorp (1984). In Colombia the interest on the great depression mushroomed during the 1970s covering the economic, social and political transformations of the time. General studies of the economic aspects of the crisis are provided in Ocampo and Montenegro (1982) and Patiño (1981). In our case, the public debt is the common thread of our discussion of the great depression.

Two main topics are treated in this section, namely, the events which document the cushioning role of the internal public debt, and the process of default on the external debt. How do these topics fit into the general argument? The default on the external debt is the last step in the boom-and-bust cycle of foreign lending of the 1920s which we described in Section I. Colombia's adhesion to the gold standard and full external debt service were maintained until after there were clear indications that the international economy was going off gold, exchange controls and default were spreading in Latin America, and the international reserves of the country were on the brink of exhaustion. In this section we describe how default on the Colombian external debt was a partial and gradual process which started in late 1931 after the adoption of foreign exchange controls. The internal public debt enters this tale as a crucial recovery device after years of deflation, and once exchange controls were imposed. That function was performed in different ways as explained next.

Our underlying model sustains that the internal public debt is a negative function of macroeconomic variables such as output, imports and external financing, and a positive function of government expenditures. This section argues that during the great depression the economy was severely damaged by adverse shocks on the first three variables. As the financial sector was heavily dependent on external markets, the stoppage of external financing left the banking system on the verge of collapse. The downfall of imports substantially impaired tax revenues, and to recover government budget balance authorities had to engineer a drastic cutback of public expenditure. The collapse of coffee prices and other staples not only weakened the external sector but depressed domestic activity. Since the economy was thus affected through a diversity of routes by the great depression, once controls on foreign exchange and external debt repayments were established, the "cushioning" increase in the internal public debt was carried out through a variety of ways according to the channel of connection from the external shock to the domestic economy.

The public debt literature recognizes that war has been one of the major historical causes of public debt increases. In our case, a border conflict with Peru came to demand an increase of the internal public debt far beyond what authorities have thought it would be necessary to cushion the shocks of the great depression. Importantly, authorities also raised taxation in order to assure a quick amortization of the increased public debt. This is an illustrative episode of how authorities found it less costly to increase the internal public debt than taxes to cushion the shock of the war on government expenditures, but were also disposed to increase taxation so as to reduce the future debt burden. As the reader will recall from the econometric sections, our research was designed in order to check to what extent governments do not change taxation when the internal public debt is used as a shock absorber. The events just mentioned give factual support to the econometric findings.

The section is organized as follows. Firstly (subsection A), we introduce the reader to the great depression in Colombia by describing the channels through which external shocks were transmitted to the domestic economy. Secondly (subsection B), we concentrate on the

diversity of ways through which the cushioning role of the internal public debt took place. Finally (subsection C), we discuss the gradual process by which Colombia formally defaulted on the external debt.

A. Shocks on asset-markets during the great depression.

We start by drawing a picture of the great depression in Colombia by means of crucial links between asset markets. The scheme resembles that publicized by Eichengreen and Portes (1987) to express the "essential anatomy of financial crises". We apply a modified version to the Colombian experience to show how shocks on the external sector (current and capital accounts) affect domestic financial markets and government finance, and how domestic bank stability and prospects of external credit to the country are affected by the reaction of foreign creditors to worldwide debt problems.

We divide our discussion as follows. First, we describe a variety of external shocks, namely, shocks on foreign exchange markets, shocks on domestic financial markets, shocks on public finance, and shocks on the market for government bonds. Second, we examine the linkages through which crises in one market are transmitted to other markets.

We indicate how in the 1930s authorities reacted to the shocks by firstly following orthodox policies prescribed by the monetary regime (gold standard), long before adopting exchange controls. This critical measure was not imposed until the international reserves had been nearly depleted, the domestic financial system was about to collapse, and the world economy was going off gold. A partial default on the external debt was negotiated shortly after the adoption of exchange controls. Both measures were regarded as temporary devices to halt the exhaustion of foreign exchange.

A crucial addition to the aforementioned scheme is that the internal public debt acts as a cushion against external shocks, in different ways according to the channels of connection

from the external disturbances to the domestic economy. We introduce this role in this subsection, but it is in subsection B that the experience with internal public debt during the great depression is treated in detail.

1. Shocks on foreign exchange markets

Peripheral countries experienced negative shocks on their external goods and capital markets during the great depression. Colombia's fortunes were tied to the fate of coffee prices (Table 36).

TABLE 36

COLOMBIA
KEY MACROECONOMIC INDICATORS
1925-1938

YEAR	GDP[1]	INFLATION[2]	COFFEE PRICE[3]	NOMINAL EXCHANGE RATE[4]	REAL EXCHANGE RATE[5] (1935=100)
1925		1.1	27.6	1.01	74.9
1926	8.6	22.7	28.5	1.03	62.2
1927	7.8	-10.4	25.1	1.02	69.0
1928	7.5	0.4	27.3	1.02	65.7
1929	2.1	-0.4	22.8	1.03	67.6
1930	-0.8	-20.7	17.2	1.03	70.9
1931	-1.6	-13.5	15.6	1.03	75.0
1932	6.6	-23.3	11.4	1.05	89.5
1933	5.6	5.0	10.5	1.25	96.2
1934	6.3	38.8	13.7	1.63	93.4
1935	2.4	4.3	10.3	1.78	100.0
1936	5.3	6.0	11.3	1.75	93.2
1937	1.6	3.3	11.6	1.77	95.4
1938	6.5	12.6	11.0	1.79	84.0

NOTES
1 Annual rate of growth of GDP.
2 Average of monthly annual inflation rates.
3 Average of monthly quotations of the Colombian coffee in New York.
4 Average of month-end quotations of the US dollar in terms of Colombian pesos.
5 Calculations based on the CPI of both Colombia and the United States.

SOURCES
For GDP, Cepal (1957). For inflation rates, Mitchell (1993). For coffee prices and nominal exchange rates, IGBR, various years. For the U.S. CPI, Department of Commerce (1976).

Colombia enjoyed unprecedented high coffee prices during 1925-1928 when the external quotations reached levels 50% higher than during the first half of the decade; on average, these prices were over US27¢/lb and peaked in 1926 when they reached the level of US28.5¢/lb. Things changed dramatically after the collapse of the Brazilian valorization policies and the New York stock market crash in late 1929. Coffee prices had been deteriorating since early 1929 but plunged downward after those adverse events. By 1933 the average coffee price was only US10.5¢/lb. But as seen in Section I.E. of this part, the negative impact of declining prices was to a great extent absorbed by sustained levels of real exports during 1929-1933. The major detrimental shock in the Colombian experience was the cutback of foreign lending which provoked a massive outflow of international reserves between 1929 and 1931.

Table 37 illustrates the contrasting experiences of the external sector during the second half of the 1920s and first half of the 1930s. As seen, a negative trade balance dominates during the late 1920s. A more dramatic description is offered by the adverse evolution of net export revenues (column (5)) up to 1929.[1] In fact, during 1924-1928, 70% of the net inflow of external funds (column 7) went to finance the excess of imports over export revenues, and the remaining 30% to finance a continuously increasing stock of international reserves (column 6). This process came to a halt after foreign lending was suddenly cut off in 1928. The figures show how the net outflow of external funds was at first financed by a substantial loss of international reserves, and secondly, by a net inflow of export revenues. During 1929-1931 international reserves were practically depleted, and trade surplus was regained after a vast reduction of imports -50% in 1930 only.

Both the huge influx of foreign funds of the late 1920s and the heavy drain of foreign assets during the great depression came about under the "rules of the game" of the gold-exchange standard. Authorities were extremely reluctant to abandon those rules even under the precarious foreign exchange conditions of 1931. It was not until exogenous events of universal repercussions convinced the Colombian authorities of the international

TABLE 37

COLOMBIA
TRADE BALANCE AND EXTERNAL FINANCING
1923 - 1938

(Millions of U.S. Dollars)

YEAR	(1) EXPORTS (FOB)	(2) EXPORT REVENUES	(3) IMPORTS (CIF)	(4) TRADE BALANCE (1)-(3)	(5) NET EXPORT REVENUES (2)-(3)	(6) INTERNATIONAL RESERVES	(7) CHANGE IN INTERNATIONAL RESERVES	(8) NET EXTERNAL FINANCING (7)-(2)+(3)
1923	57.8	51.5	64.5	-6.7	-13.0	7.4		
1924	85.5	79.8	61.8	23.7	18.0	23.1	15.7	-2.3
1925	83.5	77.8	95.7	-12.2	-17.9	36.3	13.2	31.1
1926	109.9	96.3	121.9	-12.0	-25.6	43.0	6.7	32.3
1927	106.4	83.5	135.9	-29.5	-52.4	44.2	1.2	53.6
1928	130.8	103.7	158.9	-28.1	-55.2	64.7	20.5	75.7
1929	122.8	93.6	136.9	-14.1	-43.3	37.7	-27.0	16.3
1930	109.5	78.6	68.0	41.5	10.6	27.4	-10.3	-20.9
1931	94.4	75.6	44.4	50.0	31.2	13.8	-13.6	-44.8
1932	66.9	50.9	32.7	34.2	18.2	17.2	3.4	-14.8
1933	58.9	47.2	44.7	14.2	2.5	16.8	-0.4	-2.9
1934	93.7	67.3	60.3	33.4	7.0	13.7	-3.1	-10.1
1935	80.1	57.4	67.1	13.0	-9.7	18.4	4.7	14.4
1936	89.9	66.5	76.7	13.2	-10.2	24.1	5.7	15.9
1937	104.1	74.5	95.9	8.2	-21.4	20.0	-4.1	17.3
1938	91.3	65.3	89.1	2.2	-23.8	27.0	7.0	30.8

NOTES.
Column (2) is equal to column (1) but excluding 80% of oil, 60% of gold and platinum, and 50% of bananas. Ocampo (1987)

SOURCES. IGBR (1964)

disenchantment with the gold standard that measures were adopted, first to avoid the complete exhaustion of international reserves, and second, to foster reflationary measures. The 1931 (September 21) devaluation of sterling and the 1933 devaluation of the U.S. dollar were the episodes which broke the resistance of the few countries still on gold.

In order to stabilize the exchange rate (Colombian pesos per U.S. dollar) around the parity levels, the central bank (Bank of the Republic) defined a band which was narrower than that corresponding to the gold export and gold import points. The Bank did not find major obstacles to stabilize the exchange rate within the self-imposed limits during 1926-1928. However, the drying up of foreign lending since 1928 and the collapse of coffee prices in 1929 made stabilization more difficult; by November 1928 the exchange rate had reached the upper limit self imposed by the Bank and by April 1929 the exchange rate exactly matched the gold export point. The Bank managed to sustain this level under the gold standard framework until September 1931, when exchange controls were adopted to halt what became a massive drain of international reserves. It is illustrative to note that during the 28 months during which the Bank was selling gold and foreign exchange at the gold point of exports under the gold standard, international reserves fell by 72%, and 46% during the first-three quarters of 1931 only.[2]

Authorities presented the imposition of exchange controls as a temporary measure due to exceptional events while expecting to restore the gold exchange standard in full once normality was recovered. To corroborate that intention, authorities implemented a hybrid system according to which exchange rate stability within the gold points would continue to be the policy target, but the Bank of the Republic would be the only authorized seller and purchaser of foreign exchange. The system was known as the "controlled gold standard".

In practice the exchange controls barely avoided a further decline of international reserves and even at the end of the first-quarter of 1932 the stock of reserves was lower than that on September 1931. By that time the gold export point had reached a higher level and the Bank

of the Republic adopted that level for its exchange operations.[3] A year later (February, 1933), under pressure of exporters, authorities introduced a multiple-exchange-rate regime in which the gold export point was retained for government transactions. Although this scheme of differentiated rates was once more presented as a transitory device, it constituted the first movement away from the bounds of the gold standard.[4]

Expectations of a restoration of the gold standard vanished after the devaluation of the U.S. dollar. An emergency legislation authorizing the establishment of exchange controls was pushed through the U.S. Congress in March 1933, and by mid-April the dollar had fallen; in only one week (April 15-April 22) the dollar declined 11% with respect to the sterling pound. The dollar devaluation became part of reflationary measures adopted by the Roosevelt administration, and other economies allowed their currencies to move downward along with the dollar. To minimize the negative effect of the dollar devaluation on the coffee industry, Colombia adopted a fixed parity between the peso and the dollar. However, this parity turned out to be artificial, and in September 1933 the peso was devalued against the dollar. This determination, the first outright decision of devaluation after the abandonment of the gold standard was followed by a managed floating arrangement under which the peso depreciated even further against the dollar. By 1935 the exchange rate had stabilized and at the new level authorities reestablished a fixed exchange rate regime which then prevailed between 1936 and 1948.[5]

2. Shocks on domestic financial markets

After the financial reforms of 1923 (Section I.D. of this part) which created the Bank of the Republic and reorganized the banking system, the money supply (M_1) increased continuously until the collapse of net external financing in 1928 (Table 38). M_1 grew at an annual rate of 17.7% between 1924 and 1928 due to the substantial accumulation of international reserves during the same period. Thereafter M_1 shrank as the drain on the international reserves gathered speed. By 1931, with the stock of reserves nearly exhausted,

M_1 had come back to its incipient level in 1924. It was the combination of the monetary regime -the gold-exchange standard- and the boom-and-bust swings of foreign lending which caused the burst and further drop of monetary aggregates.

TABLE 38

COLOMBIA
MONETARY INDICATORS
1924-1937

(Millions of Pesos and Percentages)

	MONEY SUPPLY				INTEREST RATES (%)		
						Long-term Rates	
Year	Total M_1	Rates of Growth (%) M_1	B	m_1	Central Bank Discount Rate	National Government Bonds	Mortgage Bank Bonds
1924	57.6				7.0	10.0	9.8
1925	73.3	27.3	14.0	11.6	7.0	10.0	9.1
1926	89.9	22.6	19.5	2.6	7.0	10.0	8.7
1927	94.5	5.1	5.7	-0.6	7.0	10.0	8.5
1928	110.6	17.0	13.5	3.1	7.0	9.4	8.0
1929	80.9	-26.9	-22.3	-5.8	9.0	9.2	8.0
1930	64.2	-20.6	-19.3	-1.7	7.0	9.1	8.0
1931	56.9	-11.4	-8.9	-2.7	7.0	9.1	8.0
1932	68.2	19.9	15.0	4.3	6.0	7.4	8.0
1933	84.6	24.0	21.8	1.9	4.0	6.0	6.2
1934	100.7	19.0	18.0	0.8	4.0	5.5	6.2
1935	103.2	2.5	12.1	-8.6	4.0	5.6	6.8
1936	124.2	20.3	17.2	2.7	4.0	5.6	6.8
1937	128.0	3.1	0.3	2.7	4.0	5.6	6.9

Sources.

Money Supply (M_1). Informe Gerente Banco de la Republica, 1964
Monetary Base (B). Estimated according to data in Triffin (1944) p.38-39
Central Bank discount rate. Preferential discount rates to the agricultural sector: 8% in 1929, 6% in 1930, 5% in 1931, 4% in 1932, and 3% in 1933. Informe Gerente Banco de la Republica, various years.
Long-term interest rates. Weighted averages estimated according to data in Informe del Gerente del Banco de la Republica, 1964.

As expected under the "rules of the game", the instrument of monetary policy was the discount rate of the central bank. Under those "rules" authorities were to intervene by raising the discount rate whenever the central bank was losing foreign reserves. The Bank of the Republic kept constant discount rates along the foreign lending boom period, and increased them temporarily in 1929 when the economy experienced the worst outflow of international reserves, as seen in tables 37 and 38. When commercial banks started losing bank reserves due to the drain of foreign assets, the rediscount mechanism was intensively used by those banks so as to protect their liquidity position. Because the central bank sought to control its loans to commercial banks rather than to cut them out, the rediscount rate was reduced to its previous level when the magnitude of loans went back to historical levels. Once the exchange control was established in 1931 and the outflow of international reserves moderated, the strain on banks liquidity subsided, and therefore the commercial banks dependence on the central bank funding was significantly reduced.

By using the discount rate and by permitting changes in the exchange rate toward the gold export point, the Bank of the Republic managed to preserve the exchange stability required by the monetary regime during the three years between the collapse of coffee prices and extinction of external lending, and the imposition of exchange controls. The liquidity position of commercial banks under threat given the massive outflow of external assets was secured by last resort lending. The price paid for defending the monetary regime was the exhaustion of international reserves and the resulting internal deflation (as seen in Table 36, the average rate of inflation during 1930-32 was -20%).

The adverse conditions of 1928-31 were faced by the Bank of the Republic in a "fortunate way from the technical point of view" according to a thorough report by Robert Triffin (1944). But as the same author observed, Colombians ended up considering that achievement an "insignificant victory" for the paralizing effects of the deflation on the internal structures of credit. The reanimation of such structures required the abandonment of the gold standard

and the setting up of reflationary initiatives, at the center of which would be internal public debt policies, on which we will concentrate in Section B.

Financial intermediation flourished and collapsed with the boom-and-bust cycle of foreign lending. The financial market was institutionally segmented by the existence of commercial banks specialized in short-term lending operations, and mortgage banks specialized in providing long-term funding to the agricultural and housing sectors. This structure was critically important at the time for various reasons. The internal market only provided one-fourth of the resources of the mortgage banks, and therefore long-term loans to agriculture and housing substantially hinged upon the access of mortgage banks to external markets. Further, by 1929 mortgage banks accounted for 45% of total bank lending in the economy, corroborating the significance of long-term lending, but also the notorious dependence of bank lending activities on external funds. Finally, short-term loans given by foreign-commercial banks to commercial banks in Colombia represented an important proportion of resources available for lending.

The apparent dependence of financial institutions on external funds made them vulnerable to adverse shocks on foreign financing. Long-term lending to mortgage banks evaporated in 1929 and short-term funds for commercial banks faded in 1931. The consequent strain on the liability side of the balancesheet was compounded by deflation abroad and at home. The experience of mortgage banks was illustrative: mortgagors (mainly coffee growers) found it difficult to service a debt which was constant in nominal terms, at a time when prices, wages and profits were falling. Thus, mortgage banks found themselves in a blind alley with their productive assets at risk, without access to fresh funds abroad, and without alternative comparable sources of funds at home, in the midst of the great depression. During the first three years of the crisis commercial banks defended their liquidity position by using the rediscount mechanism in the central bank, but by 1931 a generalized inhability to pay on the debtors side left commercial banks and also mortgage banks on the verge of insolvency. The rediscount mechanism was no longer a sensible solution, and extraordinary measures

orientated to solve the so-called "debtors' problem" were required. These measures were adopted after the imposition of exchange controls in September 1931. As we will see in Section B, some of those measures resulted in increases of the internal public debt, and some others in a change of its composition.

3. Shocks on government finance and public debt assets.

The boom-and-slump of the 1920s dramatically affected the shape of public finances. On the revenue side the strong dependence on import duties (Table 39, column 2) made revenues extremely vulnerable to the fate of the purchasing power of exports and the availability of external financing. Current revenues boomed first (1924-1928), fell sharply in 1930 and continued falling until 1932, following the cycle described by imports. On the spending side, current outlays (excluding interest payments) followed the pace of revenues up to 1926, before the influx of external credit in 1927-28 (Table 39, column 8) made possible the spurt of government expenditures of those years. Once hopes of fresh foreign lending vanished and revenues crumpled after 1929, a draconian adjustment of nominal government expenditures was imposed along the 1929-32 period; while at their climax (1927-28) government expenditures averaged C$93 million per year, during the retrenchment period (1929-1932) they averaged C$51 million. Given the evolution of revenues, the path of curtailed outlays led to small alternate surpluses and deficits, and it can be observed that an incipient average primary surplus during 1929-31 added up to the deflationary monetary policies of those years.

Two important periods dominate the experience with public debt in the 1920s and 1930s. The external loans to the national government in 1927-28, and the internal loans of 1932-34. According to Table 39, internal debt changes were rather low or negative when the national government had access to external financing, and became gradually important when massive foreign lending came to a halt in 1928. But it was in the 1932-34 period that changes in internal public debt reached their apogee. Once exchange controls were established in

TABLE 39

COLOMBIA
FISCAL INDICATORS
PERIOD 1924 - 1937
(Millions of Pesos)

YEAR	(1) CURRENT INCOME	(2) IMPORT TAXES % OF (1)	(3) CURRENT EXPENDITURE	(4) PRIMARY DEFICIT	(5) DEBT SERVICE	(6) BORROWING REQUIREMENT	CHANGES IN PUBLIC DEBT NATIONAL GOVERNMENT (7) INTERNAL	(8) EXTERNAL	(9) TOTAL
1924	39.9						-3.7	-2.5	-6.2
1925	51.5	43.1	49.4	+2.1			-3.1	-1.9	-5.0
1926	60.6	42.7	61.0	-0.4			-2.9	-2.7	-5.6
1927	63.4	46.0	78.4	-15.0	6.0	21.0	-1.9	23.3	21.4
1928	75.5	49.1	107.4	-31.9	7.7	39.6	4.2	35.5	39.6
1929	75.2	47.1	73.5	1.7	9.0	7.3	2.4	0.5	2.9
1930	49.4	37.2	51.3	-1.9	9.6	11.5	9.4	-3.5	5.9
1931	43.7	40.5	42.7	1.0	9.2	8.2	11.0	10.7	21.7
1932	34.6	50.6	36.1	-1.5	10.1	11.6	18.8	-7.3	11.5
1933	43.3	52.0	51.6	-8.3	11.1	19.4	14.5	-2.9	11.6
1934	52.5	46.9	54.1	-1.6	19.1	20.7	11.4	5.5	16.9
1935	58.2	47.3	49.7	8.5	10.1	1.6	-1.0	4.3	3.3
1936	73.1	41.0	61.9	11.2	10.6	-0.6	-2.2	-2.3	-4.5
1937	86.2	39.8	72.5	13.7	11.4	-2.3	-2.1	-2.5	-4.6

NOTES.
Due to differences in sources of information, data in column 6 do not coincide with data in column 9.

SOURCES.
Column (2) from Cepal (1957). Columns (1), (3) and (5) from Informe Financiero del Contralor, various years. Changes in external public debt from series constructed in Section III of this Part.

September 1931, an important fraction of the internal public debt increase was financed by the central bank as part of reflationary policies. The resort to the central bank was seen as a temporary measure restricted to the attainement of reflationary targets. Later, in 1935, once the great-depression years were left behind, a process of fiscal reform revitalized tax revenues and made it possible to start reducing the stock of internal public debt.

As financial assets, government bonds had to compete at home with private bonds issued by mortgage banks (mortgage bonds or cedulas). Although during the 1920s mortgage banks sold about 65% of their bonds in international markets, the internal mortgage bonds became the dominant long-term financial asset. Government bonds represented about 60% of the size of mortgage bonds sold at home during 1923-30. Interest rates on government and mortgage bonds were always high according to international standards though mortgage banks progressively reduced their rates in the late 1920s (Table 38). In 1929, the interest rate on domestic mortgage bonds was 8%, still higher than the 6.7% paid on mortgage bonds sold abroad (Table 29). At the same date, the interest rate paid on domestic government bonds, 9.2% was far higher than the 6.5% paid on bonds sold in the U.S. markets. The discrepancy between domestic rates paid on government versus mortgage bonds was a subject of controversy. The reduction of interest rates on government bonds during the late 1920s was carried out by the issue of bonds of lower interest rates (bonds of 8% and 8.5%) while issues of bonds of higher rates (10%) were suspended.

As for the market prices of bonds, external quotations rose during the loans boom, peaked in 1928 just on the brink of the collapse of international lending, and shrinked with the retreat of foreign financing. For instance, the bonds of the national government sold in the New York Stock Exchange (1927 and 1928 issues only) were quoted at 91 in 1928, 78 in 1931, 40 in 1932 and 36 in 1935. The steep drop in bond market prices was due not only to the drying up of external loans. A chain of events such as the wave of sovereign defaults which affected various South American nations during 1931, and the adoption of exchange controls in Colombia in late 1931 could have contributed to drive down the debt quotations, regardless

of the continuity of debt service payments. In the case of the bonds just mentioned which constituted the two biggest single issues of the 1920s, although interest and sinking fund were paid in full until mid-1933, the international quotation had actually fallen to 40% of their par value in 1932. Domestic bond prices had to endure a similar fate, reaching quotations above 90% by 1928, and just 50% of the par value by 1931.

4. Asset-market linkages at work

Our previous descriptions of individual asset markets showed some reflections of the world depression of the 1930s on each market. Additionally, they suggested the existence of linkages between crises in individual markets. Two crucial linkages can be defined regarding the crisis of the banking system. The first performs between shocks on the exchange market and their effect on bank stability. The second operates between the unfolding of external debt problems and their impact on bank stability. Two other meaningful linkages highlight the crisis of government finances and external creditworthiness. They are also originated in shocks on the exchange market and in the deterioration of the international country-debt situation.

The first linkage summarizes the devastating effects on internal financial markets of the shocks on the external goods and capital markets. As seen above, the international reserves and the principal monetary aggregates collapsed returning to the nominal values they achieved around 1924 before the lending boom actually started. The banking system lost one-third of its reserves during 1928-1931. The problem was not only the downfall of financial resources, however. The collapse of terms of trade and the general deflation of the period 1929-32 badly undermined the ability to pay of exporters and other commercial debtors, then putting at risk the recovery of bank loans. By 1931, the "debtors' problem" was so deep that the paralysis of the banking system could only be averted by extraordinary measures of government intervention.

The second linkage shows how bank stability is impaired by tensions arising between foreign creditors and debtors. An example taken from the experience of both, the 1930s and the 1980s, is the interruption of short-term lending by international bankers. In the 1930s it was an universal phenomenon which hit European and Latin American debtors, and Colombia was not an exception. Contemporary observers and authorities considered the cutback of short-term loans as one of the major setbacks received from international creditors. These pressures from abroad were particularly intensive during the first three quarters of 1931, at a time when the Colombian external debt was being fully served by private and public debtors. From the banks viewpoint the reduction of short-term loans caused new strains to their already deteriorated financial situation and made difficult the financing of normal operations of international trade.

The third linkage highlights the demolishing effects on public finance of the unfavourable shocks on the external sector. The drastic reduction of imports prompted by the collapse of foreign lending provoked a severe downturn of tax revenues (custom duties). So as to balance the budget, fiscal authorities imposed a radical retrenchment of government spending - particularly government investment expenditures-. It was a policy applied under the orthodox framework of the monetary regime, whose recessionary effects added up to the deflationary forces arising from the negative external shocks. There were more implications. Creditworthiness of the public sector and the nation was adversely affected by deteriorating terms of trade. Because exports fell sharply between 1928 and 1933, and long-term foreign lending had been suspended since 1929, standard indexes of indebtedness reflected a rapidly increasing proportion of debt by unit of exports, therefore weakening the reputation of creditworthiness among foreign creditors. While the external debt of the Colombian public sector represented 1.23 times the value of exports in 1928, the relevant figure for 1931 was 1.77, after a reduction of 28% in the value of exports. All this happened while foreign debt obligations of Colombia were being punctually and entirely fulfilled.

The fourth linkage points out how debt problems in neighbouring countries affected the external credit to the country. It is important to note that in some critical respects Colombia followed a different way from its debtor partners. The country stood out in Latin America for its protracted resistance to abandoning the gold exchange standard, and its commitment to service the external debt. Colombia avoided to enroll the list of pre-sterling depreciators, a group in which other prominent debtors became involved, such as Argentina and Brazil in 1929, and Chile in 1930. Colombia adopted a exchange control system in September 1931, "forced" by the near exhaustion of its international reserves and an international context which was going off the gold standard. As the foreign situation of the country got worse, authorities announced a "temporary" and partial suspension of debt service in February 1932. Default came about as a partial, gradual and intermittent process which became more clearly defined since 1935, though even then some specific payments were maintained.

The fact that Colombia not only stood by the gold standard for a considerable longer time than other salient South American debtors, but honoured its external obligations more persistently than them (with the conspicuous exception of Argentina which did not default this time), did not render the country a more favourable treatment by foreign creditors. The wave of currency depreciations which spread around Latin America since 1929, the outbreak of sovereign defaults which in the first three quarters of 1931 involved 5 South American countries, and the political upheaval frequently associated with default decisions, made the whole region an unattractive risk for potential creditors.

How could authorities block the damaging results of these links over the internal credit structure and the government finances? For three years, 1928-31, authorities followed the orthodox prescriptions, under the assumption that international cooperation would eventually restablish a stable equilibrium under the gold standard system. Individual efforts at the periphery to avoid financial instability and recession proved to be ineffective under the gold standard, and reflationary measures, either fiscal or monetary, were discarded for incompatible with the maintenance of gold convertibility. Eventually, a crucial measure was

the establishment of exchange controls in September 1931. However important, this measure was not designed to restablish the internal credit structure and to start reflating the economy. This was the role to be played by the internal public debt as we will show in Section B.

B. The "cushioning" role of the internal public debt during the great depression.

Three periods can be recognized in the evolution of the internal public debt (hereinafter IPD) during the 1920s and 1930s (Table 40). The first one between 1923 and 1927, during which the nominal stock of IPD was continuously falling and represented no more than 1.3% of GDP. The second one between 1928 and 1934 during which IPD increased at the annual exponential rate of 36% and represented about 5.5% of GDP. Two phases can be distinguished along this second period: the 1928-30 years during which IPD represented some 1.8% of GDP, and the 1931-34 years during which the comparable figure was 8.2%. Finally, a period of slightly declining nominal IPD after 1935, although still representing around 7% of GDP.

Bonds constituted the dominant instrument of IPD throughout the period, though their importance declined from an overwhelming 84% up to 1929 to 52% during the rest of the period. As seen in Table 40, this change was mainly due to the significance achieved by the credit extended by the financial system to the government; on average, one-third of the stock of debt was held by the financial system. As we will show below, the bulk of that fraction was in the hands of the Bank of the Republic.

The exposition is divided as follows. In the first place we examine the IPD experience during the gold-standard period, 1923-1931. Later we explore the leading position of the IPD in the recovery policies implemented during 1932-1933. We also discuss the importance of the IPD during an armed conflict with Peru (1932-33) and how authorities combined internal public debt and taxation to pay for the war. Finally, since much of the IPD increase was in the form

TABLE 40

INTERNAL PUBLIC DEBT
1923 -1937

(Millions of pesos and percentages)

	COMPOSITION OF THE INTERNAL PUBLIC DEBT							
	TOTAL C$	PERCENTAGE OF GDP	TOTAL PER CENT	BONDS	PROMISSORY NOTES	NOTES	FINANCIAL SYSTEM LOANS	FLOATING DEBT
1923	21.2	n.a.	100.0	79.4	0.4	17.6	2.6	-
1924	17.4	n.a.	100.0	80.8	0.5	18.7	-	-
1925	14.3	1.76	100.0	79.1	-	13.9	7.0	-
1926	11.4	1.14	100.0	83.4	-	16.6	-	-
1927	9.5	0.90	100.0	88.9	-	0.6	10.5	-
1928	13.7	1.08	100.0	85.1	-	0.3	14.6	-
1929	16.0	1.39	100.0	90.5	-	0.2	9.3	-
1930	25.4	2.81	100.0	58.5	23.6	0.1	17.8	-
1931	37.6	5.25	100.0	46.0	15.9	0.1	34.8	3.2
1932	57.4	8.94	100.0	52.0	9.6	-	34.7	3.7
1933	74.3	10.66	100.0	51.0	7.8	-	35.1	6.1
1934	82.3	7.99	100.0	52.8	11.2	1.9	32.6	1.5
1935	81.4	7.96	100.0	51.7	11.2	3.3	32.2	1.6
1936	79.0	6.50	100.0	52.1	9.8	3.2	33.5	1.4
1937	77.5	6.09	100.0	50.4	8.4	2.4	36.6	2.2

SOURCE.
Informe Financiero del Contralor. Various years.
CEPAL (1957)

of central bank loans to the government, we review the reflection of this process on monetary aggregates.

In our econometric discussion (Part III, Section I), we observed how the IPD grew well below trend before 1931, and how the highest IPD growth rates in the whole series (1925-85) were achieved during 1932-33. Explanatory variables such as output, imports and external financing grew well above trend up to 1928, shrinked after this date, and by 1931 were just growing at the historical rate (output) or well below it (imports and external financing). The next two subsections investigate the facts behind the cyclical behaviour of the IPD between the mid-1920s and the mid-1930s.

1. Internal public debt management under the gold exchange standard, 1923-1931.

a. 1923-1927

The nominal stock of the IPD fell by more than one-half between 1923 and 1927. A series of causes interacted to yield this result. Apart from the macroeconomic facts just mentioned which led the IPD to grow well below trend, there were institutional reasons of domestic and also external origin. An important domestic motive was the unification of the national currency after the foundation of the Bank of the Republic in 1923. Since some government securities were being used as money by the public, the withdrawal of those securities from circulation was considered a prerequisite for the success of the Bank, and by 1927 only a negligible amount of the debt instruments under question (Treasury Bonds of 1922 and Treasury Certificates of 1919) was still in circulation. This process of monetary unification accounted for about two-thirds of the internal debt reduction between 1923 and 1927. The other one-third involved the nearly complete liquidation of accumulated Notes issued by the

Treasury, and an exiguous reduction of Colombian Bonds of Internal Debt (the main instrument of internal debt at that time).[6]

The need of improving the external image of government finances was another motive to reduce the IPD. Since the sustainability of the gold standard to be adopted in 1923 could require access to external financing, contemporaneous legislation (Law 102 of 1922) had authorized the government to negotiate huge external loans. Additionally, legislation enacted at the end of 1922 (Law 116) provided for the conversion and reduction of the IPD by authorizing custom tariff increases specifically assigned to that end.

There are indications based on private correspondence that the necessity of improving the credit position of the government could have been "suggested" by foreign bankers as a condition for negotiating new loans. For instance, in a communication sent to the [British] Council of Foreign Bondholders enclosing a copy of the Law 116 of 1922 mentioned above, the British Department of Overseas Trade observed: "The question of the consolidation of the internal debt has for some time past been urged on the Colombian government by foreign financiers almost as a condition precedent to the granting of loans on satisfactory terms".[7] Since the inactivity of foreign capital markets after World War I could not be overcome until the launching of the Dawes loan in 1924, the reduction of the IPD had no practical implications for the access of the national government to fresh foreign lending. The statistical series reveal that both the internal and external debt of the national government fell uninterruptedly between 1922 and 1926 as seen in Table 39 above. Altogether, this parallel decline implied a reduction of 40% of total national debt between 1923 and 1926. This trend was broken down in 1927 when a loan floated by the national government in U.S. markets nearly tripled the stock of external debt. As for internal debt, its decline continued until the end of 1927.

As far as the policy of reducing the internal debt went on, the indebtedness of the government with the Bank of the Republic was sporadic. Since its foundation, the Bank was authorized to

make loans to the government and to invest in government bonds for an amount no greater than 30% of the capital and reserves of the Bank. As said, loans were occasional, represented just 6% of the capital and reserves of the Bank during the 1923-27 period and were rapidly liquidated.[8]

b. 1928-1930

Key macroeconomic indicators reached a turning point in 1928 (Tables 36, 37, 39). It was the last year of high coffee prices before their continuous fall during 1929-33. It was also the year when the net external financing to the country achieved their maximum before collapsing in 1929 and becoming negative in 1930. The treasury revenues which also reached their height in 1928 were one-third lower in 1930, and although public expenditure was curtailed by one-half between 1928 and 1930, the treasury experienced financial strains during these years. To a great extent these difficulties arose from floating debts to regional governments. Since these obligations were financed by issuing internal debt, the IPD started performing a countercyclical role since late 1928. As a whole, the IPD nominal stock increased by 1.7 times during the 1928-30 period.

Before the turning point in late 1928 authorities were considering a reduction of interest rates on the IPD. The 10% Colombian Bonds of Internal Public Debt were the only possibility offered to potential investors since 1918 through 1927 (Table 41, I.A.), and it was thought that 10% was an excessively high domestic yield compared with the 6.5% average rate paid on bonds sold in the United States. Some sectors close to agricultural interests denounced what they judged to be "speculative" investments which discriminated against agriculture, "the true source of wealth".[9] The mortgage banks which were also selling 10% mortgage bonds replaced these securities by new 8% issues. The government intended to follow the same procedure by issuing 8 1/2% and 8% bonds, but its intention failed. Why? First, the Treasury found itself compelled to sell 8% bonds for financial motives (mainly debts to regional governments), alongside the original idea of bond conversion; and second, the

TABLE 41

INTERNAL PUBLIC DEBT
1927 - 1937

(Millions of Pesos)

	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937
I. BONDS											
A. Colombian Bonds											
10% Laws 23/58 1918	7.3	7.1	7.0	6.8	6.7	6.5	1.0	0.7	0.7	0.6	0.5
8,8 1/2% Laws 12/20 1928		3.4	6.1	6.5	6.5	6.4	1.0	0.5	0.4	0.4	0.3
7% Decree 711 1932						2.6	14.5	13.7	13.8	13.9	14.1
6% Decree 711 1932							4.6	7.2	7.2	7.2	7.2
3.5% Decree 2028 1933							1.0	7.0	6.8	6.7	6.4
B. 4% Patriotic Defense Loan 1932						6.3	9.8	9.0	8.2	7.3	6.1
C. 6% Coffee Subsidy Bonds 1932						4.0	4.0	3.6	3.6	3.5	3.4
D. 6% Railway Subsidy Bonds	0.2	0.2	1.3	1.5	4.1	4.0	1.8	1.8	1.4	1.5	1.0
E. Other Bonds	1.1	0.9	0.1	0.1	-	-	0.1	-	-	0.1	-
F. Total Bonds	8.6	11.6	14.5	14.9	17.3	29.8	37.8	43.5	42.1	41.2	39.0
II. PROMISSORY NOTES											
A. Treasury Promissory Notes											
8% Laws 20/56 1930				6.0	6.0	5.5	5.5				
6% Laws 20/56 1930								4.8	3.9	3.2	2.7
3% Decree 851 1933							0.3	0.2	0.1	-	-

B. 6% Belgian Railway Co 1933-35						2.2	2.2	2.2
C. National Defence								
3% Promissory Notes 1934					3.2	2.9	2.3	1.6
Decree 746 1934					1.0			
D. Total Promissory Notes	6.0	6.0	5.5	5.8	9.2	9.1	7.7	6.5

TABLE 41

(CONTINUED)

	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937
III. NOTES											
A. 6, 3% National Defence Notes 1934								1.5	1.7	1.6	1.4
B. 6% Bogota Waterworks 1935									0.9	0.9	0.4
C. Total Notes								1.5	2.6	2.5	1.8
IV. FINANCIAL SYSTEM LOANS											
A. Bank of the Republic											
Credit Quota to government	1.0	2.0	1.5	4.0	3.6	4.6	3.2	-	-	-	-
Salt Mines Concession 1931					9.0	14.8	16.7	17.6	18.3	18.56	19.3
Military Quota Tax Loan 1933							4.9	0.6	0.4	0.3	0.2
National Defence, Decree 2028 1933								4.8	4.8	4.8	4.8
National Defence, Decree 578 1934								2.9	2.5	2.5	2.5
Other Loans							1.0	0.7	-	-	-
Total-Bank of the Republic	1.0	2.0	1.5	4.0	12.6	19.4	25.8	26.6	26.0	26.2	26.8
B. Other banks				0.5	0.5	0.5	0.3	0.2	0.2	0.2	1.5
C. Total Financial System Loans	1.0	2.0	1.5	4.5	13.1	19.9	26.1	26.8	26.2	26.4	28.3
V. FLOATING DEBT	-	-	-	-	1.2	2.2	4.6	1.3	1.3	1.2	1.8
VI. TOTAL (I+II+III+IV+V)	9.6	13.6	16.0	25.4	37.6	57.4	74.3	82.3	81.3	79.0	77.5

demand for both 10% and 8% government bonds was stimulated after the New York stock market boom cut off lending on foreign mortgage bonds, therefore depressing the quotations of both foreign and domestic mortgage bonds. These two reasons lay behind the increase of Colombian Bonds of Internal Debt and the proportionate distribution of 10% and 8% issues in 1930 (Table 41, I.A.).[10]

The collapse of foreign lending did not take long to affect the market prices of the internal debt. The Colombian Bonds of Internal Debt whose quotations had been close to their par values between 1923 and 1928, were being quoted at about 50% during the first quarter of 1930, and authorities were looking for new sources of financing outside the open market. An important initiative was the issue of 8% Treasury Promissory Notes (Law 20 of 1930) destined to finance the share of regional governments (Departments) in the national revenues, as well as railway bonds due to pay during the fiscal year.[11] In the depressed conditions of the time, authorities found out three potential buyers, namely, foreign firms (the Tropical Oil Company and the Andian National Corporation), commercial banks, and the Bank of the Republic itself. Each buyer acquired one-third of the C$6 million Promissory Notes issued by the Treasury (Table 41, II, A). The contractual rate, 8%, though equal to that on more recent issues of government and mortgage bonds resulted too high relative to the declining international interest rate levels and an internal deflation reaching 20% in 1930. Later, the contractual rate was reduced to 6% (Law 56 of 1930).[12]

The sale of the corresponding one-third of promissory notes to the central bank was not a straightforward matter. As seen before, there existed a limit for the Bank of the Republic to make loans to the government and to invest in government bonds; that limit was of 30% of the capital and legal reserves of the Bank. During 1928 and 1929 the average bank loans to the government were C$1.7 million and the average investments in Colombian bonds of internal debt C$0.4 million, altogether equivalent to 16% of the capital and reserves of the Bank. Under pressing reasons, in 1930 the government decided to use its full credit quota in the Bank, which amounted to C$4.2 million. To that end, the Bank sold 90% of its

investments in government bonds with discount in the market, and extended loans to the government up to the legal limit (Table 41, IV, A). Given this situation, the government found itself unable to sell promissory notes to the Bank, and a legal change was required.

The government proposed the enlargement of its credit quota in the Bank from 30% to 45% of the capital and legal reserves of the institution, as part of a broad range of reforms to the Bank. Most of these reforms were inspired by the idea of making more flexible the gold exchange standard; the initiative coincided with an international move orientated to lessen the stringency of the monetary regime. It was thought at the time that an international liquidity problem could arise due to a global shortage of gold, and consequently, initiatives were launched to moderate the gold demand for monetary purposes.[13] Congress was urged to aprove (Law 73 of 1930) two units of the reform package, namely, the reduction of the Bank's minimum reserve requirement on its notes and sight deposits (from 60% to 50%, still far above the internationally required range of 29%-34% depending on the amount of foreign exchange held by central banks), and the aforementioned increase of the government credit quota in the Bank. With the first measure, authorities sought to prevent any possible deficiency of metallic reserves given the continuous decline of international reserves since 1928, and with the second, authorities aimed to increase the access of the government to the central bank credit. Specifically, the second measure was put forward to allow the Bank to purchase its share in the Treasury Promissory Notes of 1930; the increased credit quota just allowed the Bank to make that investment.

To recapitulate, two different phases characterized the behaviour of the IPD under the gold exchange standard. Its nominal stock continuously declined along the prosperous 1923-28 period during which the process of monetary unification took place. Subsequently, it increased during the recessionary period ushered in by the collapse of foreign lending and coffee prices in 1928, reaching the figure of 2.8% of GDP in 1930. During the second phase, authorities ended up increasing the credit quota of the government in the central bank to finance compelling requirements of the Treasury. The orthodox institutions of the gold

standard lost ground to more flexible views which backed a monetary regime more responsive to the depression. Those flexible views were brought about by the pressing economic conditions of the time, although still representing slight modifications of the monetary regime. Nevertheless, such movements away from the original orthodoxy created a precedent for more substantial changes in the years to come.

2. The role of the internal public debt in the context of reflationary policies, 1932-1934.

By September 1931, three full years of depression had critically weakened the economy. Output had been falling since 1930, and prices had followed a downward spiral since 1929 (Table 36). As far as the situation deteriorated, authorities complied with the prescriptions of the gold standard, namely, changes in the discount rate of the central bank so as to discourage commercial bank lending, and control of public spending in order to balance the budget. As seen above, the most drastic medicine applied by authorities was a sharp retrenchment of public spending which led to a reduction of 60% in nominal current expenditures (excluding debt service) between 1928 and 1931. The case is that in spite of these deflationary measures, by the third quarter of 1931 international reserves had been nearly depleted and the paralysis of credit institutions was well under way.

Although a countercyclical behaviour of the IPD had been observed since late 1928, such a role turned out to be crucial during 1932-34 after the imposition of exchange controls and a partial default on external debt in late 1931. It was during 1932-34 that the cushioning role of the IPD was fully brought into play. The whole experience can be summarized as follows. First, the IPD was an important instrument of reflation through the application of central bank credits to finance Treasury deficits, and public work programs intended to accelerate recovery; this is the subject of subsection 2a below. Second, the IPD was a critical instrument for avoiding the collapse of the banking system and restablishing normal creditor-debtor relationships in the economy; this experience is discussed in subsection 2b. Third, the IPD

was used to subsidize vital sectors of the economy which were the most adversely affected by the negative external shocks of the late 1920s; the case of the coffee growers is presented in subsection 2c. Finally, the IPD was the main source of financing of the armed conflict with Peru in 1932-33; this episode is examined separately in subsection 3.

a. Extraordinary financing of the central bank to the government.

The following points are highlighted in this subsection. There existed a strong oposition in the government and in the private sector to increase the IPD by resorting to the credit of the Bank of the Republic. The gold standard was defended as a guarantee of sound monetary policies, fiscal discipline and creditworthiness abroad. However, once the international economy started going off gold, authorities imposed exchange controls, and extraordinary though limited loans of the Bank to the government were authorized.

i) The context

The fact that the Bank of the Republic's foundation charter was modified in 1930 in order to increase the credit quota of the government did not mean that old antagonists of money-financed government deficits had conceded points in the controversy with enthusiasts for active reflationary policies. In March 1931, a parliamentary commission proposed to create an additional and temporary credit quota to the government in the central bank; given the magnitude of the resources under discussion, the total credit quota of the government would have raised from 45% to 80% of capital and reserves of the Bank, had the proposition been passed. The government as well as the Bank of the Republic firmly opposed the parliamentary initiative. It was argued by the minister of finance that a new credit quota "will open the way to all future fiscal crisis and point to the exclusive financial resource: the Bank of the Republic".[14] President Olaya and his cabinet backed the minister by indicating that they opposed any measures "that could endanger the soundness of the Bank of the Republic, put at stake the monetary stability, and adversely affect national creditworthiness abroad..."[15]

It was not until the last quarter of 1931 when having imposed exchange controls (September 24) and agreed with foreign creditors a partial default on the external debt, that an initiative of extraordinary lending to the government could be approved. The presence of controls was seen as a framework for starting reflationary policies financed by the central bank without going off the gold standard. The minister of finance referred to the new regime as a "controlled gold standard" and introduced it as a "splendid base of recovery and financial equilibrium".[16]

Representatives of the private sector denounced the inflationary risks of going off the gold standard. Influential traders of Medellin expressed:

"The sound money is not opposed in any way to the progress and public welfare, but promotes and maintains it, instead. To attribute the cause of the crisis to the gold standard and ask the issue of paper money as a remedy,...is an invalid argument which in practice would be ruinous for the community... Colombia still remembers the hard lesson of the turn of the century when paper money without gold cover was issued".[17]

President Olaya himself in his reply to the quoted traders did not hesitate to identify the paper money as a cause of misery and discredit:

"I entirely coincide with your opinion about the fundamental need of preserving a sound money and maintaining the gold standard. Every sacrifice is worthwhile if with it we avoid coming back to the regime of the paper money which together with the civil wars brought about misery and discredit to the country".[18]

The Bank of the Republic also intervened in the controversy, but to explain that the adoption of exchange control did not necessarily implied a break away from the gold standard:

"Colombia goes on under the gold standard monetary regime, enjoying the advantages of a stable change and of a sound and safe money, and in that respect constitutes a unique case among the Latin American nations".[19]

Two points should be noted regarding the previous quotations. First, the coincidence of different sectors of public opinion regarding the importance of maintaining the gold standard to avoid the reproduction of past inflationary experiences. There was a sort of "gold

standard's ethos", to use a recent discussion by Eichengreen (1992, p.292), who found that Eastern European countries were hesitant to expand their money supplies after imposing exchange controls in the 1930s. These countries had had recent experiences of high inflation and political instability which prevented them from embarking in new expansionary policies. Although the gold standard institutions were no longer in force, authorities stuck to the orthodoxy they have practiced under the gold standard.

Second, the Bank of the Republic highlights the Colombian adhesion to the gold standard as "unique" in the region. What was the practical meaning of this statement? Colombia did not share in the group of pre-sterling depreciators but maintained the exchange rate within the metalic parities after imposing exchange controls, all the way until the beginning of 1933. In the first quarter of this year a "provisional" system of multiple exchange rates was adopted, and later, after the U.S. dollar devaluation (March 1933), the Colombian peso was allowed to drift along with the dollar. What has to be added here is that a great deal of the monetary expansion that followed after the adoption of exchange controls was performed while the exchange rate was still within the bounds of the gold standard. In fact, about 60% of the loans of the Bank of the Republic to the government, and of the investments of the Bank in government bonds during 1932-1934 were actually carried out during 1932 when authorities managed to sustain the exchange rate at the gold export point.

ii) Loans and investments in public bonds

The loans extended by the Bank of the Republic to the government are displayed on Table 41, IV, A. Their total increased nearly six times between the end of 1930 and the end of 1934. This unprecedented change represented 40% of the increase of the IPD during the same period. However, loans, as important as they were, did not constitute the only way of central bank financing to the government. Investments in public bonds provided an expedient mechanism of supplying additional funding to the government; for every C$2 in loans to the government, the Bank invested C$1 in government bonds during the 1930-34 period. A less

orthodox but effective method consisted for the Bank of the Republic to become a shareholder of institutions which played a key role in the recovery of the financial system. Although this method was applied in only one single case, its magnitude was just less than that of investments in government bonds, with the result that during the 1930-34 period total investments -bonds and shares- of the central bank were slightly higher than the reflationary loans to the government.

By using the mechanism of central bank's investments in government bonds and shares, authorities avoided having to increase the government debt with the Bank by the entire magnitude of the reflationary policy financed by the Bank itself. In fact, loans to the government represented one-half of that magnitude. This behaviour was consistent with the established idea of restraining the increase of IPD financed with central bank's loans.

Three-quarters of government loans during the 1930-34 period are explained by a single negotiation. The government was not given a blank cheque in the central bank. The main loan was negotiated in advance of expected yields on government estates; accordingly, the Bank received in concession the estates represented by some salt mines, giving in exchange an advance on the expected returns of their explotation. Though this was an heterodox operation for a central bank, the contract itself underscored that there was not such a thing of a free access of the government to the central bank. The interest rate of 3% charged by the Bank on the advance was lower than the preferential discount rates applied by the Bank, and much lower than the average rates on public debt as of 1931 when the concession was approved (Table 38). The reason for the lower level was not only the guarantee offered to the Bank by the concession; it happened that in contrast to most of public bonds, the new rate was negotiated in the midst of the deflation and at a level closer to international discount rates.

The Salt Mines Concession (SMC) loan, as it was called, was approved at the end of 1931 (Decree 2214) and its main developments were felt in 1932. The contract stipulated an

advance of C$15.5 million with the option of future increases, and already in 1932 the actual loans reached C$14.8 million (Table 41, IV, A).

TABLE 42

COLOMBIA
SALT MINES CONCESSION LOAN
1932

(Millions of Pesos)

C$	PURPOSE
6.0	Liquidation of backlog of payments of the Treasury in the form of arrears of unfulfilled orders, and debts to other government entities (Departments).
3.5	Share of the government in the initial capital of the Caja Agraria and of the Caja Colombiana de Ahorros.
1.0	Interest-free government deposits in mortgage banks to facilitate the settlement of private debts.
4.3	Public Works.
14.8	

Sources.
Memoria de Hacienda, 1934, pp.36-55

Table 42 shows the distribution of the loan at the end of 1932, according to which C$10.3 million equivalent to 70% of the loan were used to finance a huge backlog of the Treasury and public works carried out by the national government; part of the backlog was represented by payments due to regional governments (Departments) which applied the new resources to provincial programs of public works. The SMC loan was increased in the following years reaching a maximum of C$20.3 million in 1938, the new resources having been applied to

aid public works' programs. As a whole, 78% of the SMC loan went to finance Treasury deficits and public works; the remainder was destined to ease the recovery of the financial system as we will see below.

b. The rescue of the financial system.

In our discussion of asset-market linkages during the great depression (subsection A.4. above), we observed how external shocks adversely affected internal financial markets, to the point that by 1931 the banking system was on the verge of collapse. In this subsection we describe how the IPD was a vital instrument in the rescue of financial institutions. First of all, the reader will find a description of the magnitude of the banking crisis. Secondly, the reader will be offered a detailed presentation of the rescue measures which involved IPD. It is important to mention at the outset, that while some measures implied an increase in the nominal stock of the IPD, other measures only implied a change in its composition. Additionally, some policy actions entailed a substitution of internal for external debt. Overall, authorities sought to restore the operation of the financial system by offering bank borrowers a subsidy financed with IPD as a compensation for wealth losses during the great depression.

i) The destabilizing effects of adverse external shocks on the domestic banking system.

By mid-1931 the domestic credit structure was on the verge of collapse. The adverse shocks of the world depression ended up undermining both sides of the bank balancesheet. Banks confronted a problem which could not be overcome by the last resort borrowing mechanism in the central bank. Both long-term and short-term sources of funds were substantially eroded by the cutback of foreign lending and the weakening of internal sources after three years of continuously falling international reserves. On the other hand, the customers ability to pay was significantly impaired not only by worsening TOT but by a deepening deflation at home and abroad. Far from being a liquidity problem, the situation in mid-1931 offered the prospect of an incoming solvency problem.

The financial squeeze of the banking system was not an isolated fact. 1931 dramatically illustrated the links between international and domestic financial systems. Financial crises spread around Europe in the summer of 1931. International short-term credits were a crucial factor of financial instability. Germany, Britain, Hungary and Austria, in that order, were the largest short-term debtors. Germany, Hungary and Austria ended up going off gold and imposing exchange controls after large-scale withdrawals of short-term credits by foreign banks. Britain was also forced off gold, but this time the banking system was not directly at stake; the already weakened external accounts as of 1930 worsened through 1931 as far as overseas earnings declined due to the international recession and spreading sovereign defaults. This condition was aggravated by the defensive measures adopted in Germany, Hungary and Austria which restricted the repatriation of interest earnings and short-term credits to Britain.[20]

In the Colombian case, the withdrawal of foreign short-term credits also played a role in the crisis of the banking system and offered powerful reasons for the imposition of exchange controls. But there were particular differences derived from the distinctive structure of Colombia's banking system. As seen in Part II.D., at that time the banking system was divided in two classes of institutions: the commercial banks specialized in short-term lending, and the mortgage banks especialized in long-term lending.

Mortgage banks were of capital importance not only because of their significant access to long-term external funds (18% of total Colombian bonds sold abroad during the 1920s), but for their implications for the macroeconomy. Mortgage banks became intermediaries between foreign long-term financial markets, and local agriculturalists and urban developers. The downfall of mortgage banks started after mid-1929 when these institutions were unable of floating bonds abroad, and worsened thereafter as far as their clientele found it difficult to meet their payments. The crisis of commercial banks came about in a different way. Although the liquidity position could be safeguarded by borrowing in the central bank, the

quality of loans deteriorated as as the recession cum deflation deepened in 1931. It was during this year that the drying out of foreign short-term credits added up to the existing financial strains on the balancesheet of the commercial banks.

Some key concepts of the consolidated balancesheet are shown in Table 43. The importance of external sources and uses of funds up to 1929 is evident. Thus, while in 1925 only 2% of total sources were of foreign origin, in 1929 they represented 48%.[21] On the assets side, while mortgage loans represented 25% of total loans in 1925, the relevant figure arrived to 46% in 1929; importantly, in 1925 the entire amount of mortgage bonds was sold internally, contrasting with the situation of 1929 when 72% of the stock of mortgage bonds appeared to have been sold in external markets. Finally, it can be seen how foreign short-term credits varied their significance over time as a proportion of total short-term funds; the relevant figure changed from 2% in 1925 to 26% in 1929, and to 15% in 1931. It is shown that foreign short-term credits fell by 61% during 1931, the critical international year of this sort of loans, as noted above.

After their last exceptional flotations in London and other European markets (Section I.D. of this part), mortgage banks tried to expand their internal market with very modest results in 1930. As seen, in the 1929-31 period the nominal balances of mortgage bonds and loans were practically constant. But more than stagnation, mortgage banks faced a financial collapse on both sides of the balancesheet. After two years of continuous deflation, and without any prospect of revival of external financing, mortgage bonds were quoted in the internal market for about one-half of their par value.[22] At the same time, borrowers had to confront the prospect of paying fixed nominal obligations to the banks while the value of their assets and products was being eroded by the deflation. In this context the future viability of mortgage banking in Colombia was at stake unless radical measures were put in place.

Bank conditions aggravated through 1931 so far as foreign banks withdrew their short-term credits from Colombian banks. This adverse process was compounded by the reduction of

TABLE 43

BANKING SYSTEM
Balancesheet
Selected Items

1925 - 1938
(Millions of Pesos)

	ASSETS			LIABILITIES				
						MORTGAGE BONDS		
	Deposits in Foreign Banks	Short-term Loans	Mortgage Loans	Foreign Bank Short-term Loans	Domestic Deposits	Internal Market	Abroad	Total Mortgage Bonds
1925	3.24	49.05	15.97	0.8	34.4	13.00	-	13.00
1926	4.25	46.90	25.50	7.0	44.1	14.87	5.03	19.90
1927	6.00	66.00	42.70	10.3	53.8	18.04	20.36	38.40
1928	8.90	85.01	67.50	16.1	65.4	20.20	41.30	61.50
1929	8.90	93.60	81.15	24.2	69.0	21.60	54.30	75.90
1930	7.90	79.88	83.98	22.5	49.6	23.24	54.16	77.40
1931	8.52	72.31	81.23	8.8	49.7	21.41	54.95	76.36
1932	3.07	59.78	73.41	7.3	53.7	15.00	53.86	68.86
1933	3.86	55.73	61.54	8.3	60.9	8.03	40.72	48.75
1934	5.60	46.54	43.68	5.2	66.1	5.83	37.21	43.04
1935	4.85	50.31	41.71	3.3	67.5	13.13	30.66	43.79
1936	5.10	66.59	43.69	7.6	75.7	13.63	35.84	49.47
1937	3.90	85.63	47.70	1.6	87.1	16.42	35.79	52.21
1938	1.03	87.34	50.23	2.7	88.4	21.59	34.88	56.47

SOURCE.
Informe del Superintendente Bancario. Various Years.

foreign exchange deposits by firms closely tied to external trade. The cutback of foreign short-term lending was of definitive importance not only for its adverse effects on the banking sector itself but for its implications on the stock of international reserves. In fact, the decline of short-term credits to the banks between mid-1930 and the end of 1931 was equivalent to a drain of 58% of the total reserves of gold and foreign exchange of the central bank. What foreign bankers left on the verge of collapse was not only the financial intermediaries but the monetary regime based on the gold standard.

Contemporary observers were rather critical of the behaviour of foreign bankers. Commenting on hearings before the U.S. Senate related to U.S. investments in Colombia, Lewis (1938, p.406) noted that "the immediate cause for the break in Colombian exchange and the imposition of exchange controls in 1931 was the withdrawal of short-term funds from Colombia by various American investors". The Bank of the Republic went further to remark the unstable behaviour of foreign banks and how the withdrawal of credits actually worsened the already weakened ability to pay of debtor countries: "The credit policy followed by foreign bankers in Latin America was shortsighted. Although extremely flexible in prosperity, it became implacable during the recession, drawing home foreign credit balances, without understanding that by doing so the precarious conditions of their debtor countries would deteriorate even further ...".[23] More even, it was President Olaya himself who left a dramatic description of the way foreign bankers drew down their credits from Colombian banks:

"Our banking system ...had to endure the utmost imaginable violent attacks...To have to recognize that the foreign support was abruptly withdrawn, then threatening the basis of the banking system, was a distressing experience. I remember the dayly news of the withdrawal of the significant bank credits that our banks enjoyed abroad, in a compulsory fashion rather than in a considered way that could make it easier for the banks to fulfill their financial commitments. By cablegram, foreign bankers asked the immediate reimbursement of credits granted to our banks...Many times those bankers considered that Colombian banks would not resist such strong demands".[24]

Short-term foreign credits vanished to the point of just allowing the financing of external trade transactions. For as long as a decade, those credits were maintained at that minimum,

and granted to the Colombian branches of foreign banks; only exceptionally some major domestic banks registered the availability of short-term credits. These facts indicate that the repatriation of foreign short-term credits involved a discriminatory gesture against banks of domestic origin.

ii) The role of the internal public debt in tackling the problem of bank debtors.

By 1931, the compounded effect of three years of deflation would have eroded the value of state properties by some 38% according to the inflation data reported in Table 26. No wonder borrowers called for an adjustment of their nominal debts in accordance with the rhythm of deflation. A climate of social pressure was described by the superintendent of banks:

"... there was a widely expressed opinion in the country which tended to organize a sort of pressure group of mortgagors; in every important trade center committees were formed with the intention of obtaining a reduction of debts in proportion to the loss of value of state properties ... and to the increased purchasing power of money".[25]

As far as the adverse conditions faced by mortgage borrowers reflected the general situation of borrowers in the economy, there existed a debtors' problem which became a crucial challenge for authorities. The minister of finance recognized the central priority of the debtors' problem:

"The problem of debts of every kind is at the center of the current crisis...It stems from the fact that while those debts being denominated in foreign and highly quoted currencies continued to be the same, ... the things destined to repay them unceasingly lose value in extraordinary proportions..."[26]

Since agriculture contributed with more than a half of the domestic output, and given the predominance of agricultural exports, it was not strange that the debtors' problem became particularly acute in this sector of the economy. Because coffee growers were at the center of agricultural and export interests, a strong campaign demanding extraordinary rescue measures from the government was led by the National Federation of Coffee Growers. A variety of policies of salvaging flavour was put forward by the Federation since 1930. They ranged from general measures such as administrative reduction of interest rates and

suspension of payments to banks, to specific proposals such as the creation of official credit institutions in favor of agricultural producers, particularly of small coffee farmers.

The campaign for official banks triumphed for the first time in 1931 (Law 51), with the foundation of the Caja de Credito Agrario (Bank of Agricultural Credit). Because the official capital of this institution was financed with funds from the SMC loan (Table 42), the corresponding increase in internal public debt was linked to the general purpose of credit restoration, and to the particular end of rescuing indebted small coffee producers.

The foundation of the Caja de Credito Agrario was not an isolated achievement of agriculturalists during the deflation of 1930-31. Parliament also passed a reform of the Bank of the Republic board's composition to accept new members within which the National Federation of Coffee Growers and the Society of Agriculturalists were included. These reforms (Law 82 of 1931) gave direct influence to agricultural interests in financial policy making, although still in a restrictive way since the gold standard was still in force. However, in a matter of two months exchange controls were adopted (September, 1931), and therefore authorities found room for autonomous financial policies to be implemented. The debtors' problem monopolized a significant share of government decisions, and the IPD proved a crucial factor in its solution.

During the first quarter of 1932 authorities were prolific in the adoption of measures to tackle the debtors' problem. The decisions enacted were of two classes: First, measures of general coverage such as the extension of terms of all commercial debts (one-year moratorium in the case of bank debts), and the determination of maximum levels of interest rates. Second, specific actions in favour of either mortgage banks or commercial banks. Since most of these actions brought about increases or changes in the composition of the IPD, we turn to describe those measures.

As for mortgage banks it can be recalled that the SMC loan already contained a contribution to banks' recovery in the form of interest-free deposits in mortgage banks (Table 42); in retribution, mortgage banks accepted to receive their own bonds -either domestic or external- as part of repayments, in a proportion of at least 50% of due instalments. Banks were to receive domestic mortgage bonds by the par value and external ones with a discount of 20%.[27]

Because since 1928 both the domestic and external market prices of mortgage bonds had been falling, the operation resulted beneficial for both debtors and banks. At the end of 1931 domestic mortgage bonds were being quoted for about 50% of their par value, and external ones for about 40% of their par value. Under these conditions, debtors could obtain a real reduction of some 20% of their debt, and banks could reduce their liabilities without having to amortize their nominal values. In the case of the external mortgage bonds the procedure ended up propitiating a repatriation of debt at the abated market prices, apart from the usual way of payments to the issue houses. Although loan contracts originally accepted the application of cumulative sinking funds to purchases under par, the operation became a highly controversial issue, since as we will see below (Section III), repatriations were made after the Colombian government expressed to the creditors its inability to entirely satisfy its external debt obligations.

As for commercial banks the most important bills were passed in April (Decree 711 of 1932). One set of acts implied the use of public bonds as a means of redemption of debts with commercial banks. Another group of acts authorized the creation of a new mortgage institution, the Central Mortgage Bank (CMB), with the initial purpose of helping recover private bank loans. In the first case there was a continuous involvement of debtors, banks, central bank and government, which in some cases led to an increase in the stock of IPD and in others to a change in its composition. The second case was that of the single operation referred to above by which the central bank purchased shares of an institution created with

the original intention of contributing to the recovery of the financial system. Such single operation did not imply any change in the stock of IPD.

The main measures for the rescue of commercial banks which involved public debt were as follows:

First, banks would accept 10% and 8% bonds of IPD for as much as 50% of debt repayments provided that the remainder was repaid by cash. This measure presupposed that debtors would buy bonds in the open market at a discount which initially could be of some 50% of the face value, and offer them to the banks for as much as one-half of debt repayments. Analytically, this action implied neither a change in the money supply nor in the stock of bonds.

Second, the 10% and 8% bonds collected by banks in repayment operations would be exchanged by the Treasury for new 7% bonds. This action implied a change in the composition of the IPD with an obvious reduction of the debt burden for the government.

Third, banks were also authorized to receive external debt government bonds in payment of private credits in the same proportion determined for internal bonds. The external bonds repatriated in this way would also be exchanged by the new 7% bonds of IPD, and as in the case of mortgage banks, commercial banks would accept them with a discount of 20%. Analytically this was a sort of open market operation in which the money supply was reduced to repatriate external debt bonds which were later exchanged by the government for IPD bonds. As a result, the stock of the IPD increased.

What were the results of these policies for both mortgage and commercial banks? As for mortgage banks, Table 43 shows that between the end of 1931 and the end of 1933, both the stocks of mortgage loans and bonds sold abroad fell by 25%, and the stock of bonds sold domestically declined by nearly 65%. When measured in U.S. dollars rather than in domestic

currency, the decline of mortgage bonds sold abroad is even stronger, reaching the figure of 38%.[28] Although these figures indicate that the process desired by authorities was being carried out, a full and rapid solution to the debtors' problem could not be achieved under the existing framework for at least two reasons: First, two-thirds of the stock of domestic mortgage bonds available when the policies were enacted (February 1932), had already been used in repayments to the banks. The remainder was too small in terms of the size of the outstanding mortgage loans to be liquidated, and the attractive market discounts initially enjoyed by debtors had considerably faded away as the demand for existing bonds increased. Second, the prospect of further significant repatriations of mortgage bonds was constrained by a low availability of international reserves which was also subject to exchange controls.

Given these difficulties, and a mounting pressure from mortgage debtors, authorities opted for a radical measure which could solve the problem of long-term debts swiftly. It was decided that the mortgage assets of private mortgage banks would be taken over by the only mortgage bank of official origin -the Agricultural Mortgage Bank (AMB)-, which assumed the liability for the bonds placed abroad.[29] Once the takeover was materialized, the government decreed an across-the-board reduction of all mortgage debts by 40% satisfying a permanent claim of long-term debtors, particularly of coffee growers. Two related reasons could have encouraged authorities to adopt such decision: first, the average high quotation of external bonds of the AMB during 1932 had been only 39% (Table 51 below); and second, the possibility of repatriating the external debt of the AMB at depreciated quotations. The adjustment of mortgage assets in the banks' balancesheet between 1933 and 1934 reflects the impact of that measure (Table 43).

As for commercial banks, the recovery policies implied changes in the size and/or composition of the IPD. There were two main reasons for these changes. On the one hand, the repatriation of external bonds of the national government and their replacement by government bonds of internal debt. This process of "internalization" of external debts, obviously led to an increase of the stock of internal debt. On the other hand, because

authorities decided to change the bonds received by banks by new bonds of lower interest rates, the composition of internal debt changed as far as debtors used bonds in their repayments to commercial banks. Table 41, I. A. shows how the size and composition of the denominated Colombian Bonds of Internal Debt substantially changed between the end of 1931 and the end of 1934. The size of these bonds increased by 120%, and its original composition based on 10% and 8% bonds was replaced by bonds of 7%, 6%, and 3.5%.

The changes in Colombian Bonds of Internal Debt can be summarized as follows: First, the increase in 7% bonds during 1932 (C$2.6 million) does not seem to have implied any significant exchange for previously existing internal bonds; instead, since repatriations actively started in 1932, the increase in those bonds could be seen as the result of exchanges for external bonds. Such repatriations involved bonds floated by the national government in U.S. markets during 1927 and 1928.[30] Second, in 1933, apart from repatriations, there was a substantial exchange of old internal bonds for new 7% bonds. Altogether, these exchanges represented about C$14.8 million.[31] Additionally, during 1933 the government issued new 6% bonds to be also offered in exchange for both repatriations and old internal bonds. This decision was adopted after an agreement between government and bankers which extended for one more year the moratorium of redemption of private debts to the banks.[32]

Third, because the reduced stock of international reserves became an obstacle for further repatriations, instead of foreign exchange authorities offered to the applicants a new bond at 50% of its nominal value, which would be received by banks at par. Since these bonds were to be accepted for one-half of the value of debt payments, debtors eventually would obtain a reduction of one-fourth of their debts. The new bond was issued at 3.5%, a rate substantially lower than those existing in the market, but in line with current international rates. Analytically, this measure resembled an open market operation in which the government offered a subsidy of 50% to the applicants. In 1934 the net increase of Colombian Bonds of Internal Debt was thoroughly explained by the enlarged allocations of 3.5% bonds followed by 6% bonds (Table 41, I.A.).

By the end of 1933 the central measures for the recovery of bank loans had been applied, and the prospect of a banking crisis eradicated. The whole package of measures implemented during 1932-34 came to around C$42 million. This sum was equivalent to 20% of the average value of total assets, and to 40% of the average value of risky assets of the banking system (excluding the central bank) during the same period. About C$30 million -70% of the whole package- corresponded to changes in either size or composition of the IPD. More precisely, 43% of the whole package corresponded to increases of the IPD (Table 44).

It is worth noting that as a result of the rescue process, the banking system (excluding the central bank) substantially increased its investment in securities. While at the end of 1931 these investments represented no more than 7% of total assets, two years later the corresponding figure was 17%. At the end of 1933, for every C$1 invested in loans, the banking system had allocated C$0.35 in securities.[33] The major accumulation of government bonds by the banking system took place during 1933, when the old 10% and 8% bonds of internal debt were exchanged.

In abstract terms banks faced the alternative of either use the accumulated bonds as a collateral for rediscounts in the central bank, or keep them as an investment to be served and amortized by the government. Things were different in practice. In the first place, the liquidity position of the banking system had been improving with the implementation of expansionary policies. Banks had reduced their rediscounts in the central bank and started accumulating excessive reserves. In this context, rediscounting was not an option for commercial banks.[34] The alternative was not an entirely free choice; as early as March 1933, and under the pressure of a border conflict with Peru, the Colombian government suspended the sinking funds on its internal bonds. This was a partial default since interest payments were to be continued. Once this extreme decision was taken, bank investments in government bonds became a forced loan to the government, and a resumption of sinking fund payments would not occur until the 1940s.

TABLE 44
FINANCIAL SECTOR RECOVERY MEASURES
1932-1934

(Millions of Pesos)

	C$	EXPLANATION
A. PUBLIC DEBT		
1. Salt Mines Loan	4.5	Increase in internal debt. Table 42.
2. Repatriations	6.4	Increase in internal debt. Bonds of external debt of the national government (1927 and 1928) repatriated and exchanged for 7% Colombian bonds of internal debt.
3. Substitutions	11.7	Change in composition of internal debt. Existing bonds of 10%, 8 1/2% and 8% received by banks and initially exchanged by 7% Colombian bonds, and later by 6% Colombian bonds of internal debt.
4. Other	7.0	Increase in internal debt. Instead of foreign exchange for repatriations, applicants received 3.5% Colombian bonds of internal debt which were accepted by banks in partial payment for outstanding debts.
TOTAL	29.6	
B. CENTRAL BANK INVESTMENTS *		
Share in initial capital of BCH	12.0	
C. GREAT TOTAL	41.6	

SOURCES.
Tables 41 and 42, and discussions in text.
* Only shares are considered.

The Bank of the Republic itself multiplied its investments in government bonds during the period of financial recovery. At the end of 1931 the only government securities held by the

Bank were the Treasury Promissory Notes referred to above, and an exiguous balance of Colombian Bonds of Internal Debt; these holdings came to only C$2.2 million, equivalent to 4% of total assets of the Bank. At the end of 1934 those holdings reached C$13.2 million, equivalent to 15% of total Bank's assets. But, as mentioned above, apart from involving public debt, recovery policies included the foundation of a mortgage bank, the CMB, with the original intention of helping to liquidate risk-assets of private banks. The Bank of the Republic became the predominant shareholder with a total investment of C$12 million (Table 44). Altogether, investments in bonds and shares amounted to 28% of total Bank's assets at the end of 1934.[35]

To sum up, internal public debt played a key though temporary role in the context of the financial sector recovery policies of 1932-1934. Either in the form of credits of the central bank (Salt Mines Loan), or through the internalization of external debts, or by exchanges of old issues of depreciated bonds accepted in payment to financial institutions, or finally, by means of new issues to subsidize repayments to the banks, internal debt contributed to the solution of the debtors' problem. Other measures such as those related to the creation of new institutions had a more permanent character. Though conceived to help overcome the paralysis of credit of the early 1930s, those institutions became integral part of the financial system lasting through recent times.

c. Coffee growers' subsidies

So far the reader has come across various examples in which coffee growers appear to receive the benefit of policy actions. In this subsection we show how authorities offered a fiscal subsidy financed with internal public debt to a pressure group as important as the coffee growers in order to defend the exchange rate regime. This measure became part of the reflationary package adopted in early 1932. Our underlying model is once more at work: the IPD is increased to finance a subsidy to a vital sector of the economy affected by the collapse of world commodity prices and the drying up of foreign credit.

Coffee growers intense pressure to solve the debtors' problem was not limited to lobby for the scaling down of long-term debts, the foundation of credit institutions, or the use of the IPD to liquidate accumulated debts with banks. There was another issue about which they felt quite strongly. After the imposition of exchange controls in late 1931, coffee growers pushed hard for either devaluation without altering the exchange control arrangement or a free exchange rate market. Having endured a great enlargement of their real debt due to the deflation, coffee growers were at the front of those pressing for a depreciation of the exchange rate.

Apart from the heavy weight of financial obligations, coffee growers argued that for reasons of competitiveness the exchange rate should be depreciated. Other coffee producers had gone off gold and depreciated their currencies; Brazil the major coffee producer, was an early depreciator (1929), and Mexico and other Central American producers had turned to depreciation by the end of 1931. Additionally, coffee growers contended that because the exchange rate in the parallel market had exceeded the official exchange rate since the adoption of exchange controls, their incomes would have been higher had they been authorized to sell their foreign revenues in the free market. Colombia was not in the mood for devaluation, however, as we stressed before. The suspension of convertibility and adoption of exchange controls in September 1931 was presented as a temporary measure, and authorities persisted in sustaining the exchange rate within the gold points. When in January 1932 authorities fixed the exchange rate exactly at the gold export point, the political pressure of the coffee group for devaluation became more intensive. The government rejected the idea of allowing the exchange rate to depreciate since "it would benefit exporters at the price of weakening monetary stability and ruining the gold standard..."[36] According to the manager of the central bank, policy makers found themselves in the position of sacrificing the interest-group politics in order to save the "interests of the majority of the Nation"[37] Nevertheless, both the central bank and the government eventually agreed that there existed a "genuine aspiration" in coffee growers complaints.[38]

That "genuine aspiration" led to an agreement between the National Federation of Coffee Growers, the Bank of the Republic and the government, according to which a 10% bonus would be paid over the foreign exchange proceeds of coffee exports, during one year (March 15, 1932-March 15, 1933). Such bonus would be financed by the issue of a 6% bond of internal public debt. According to Table 41 that issue amounted to C$4 million equivalent to 7% of internal public debt in 1932. The Bank of the Republic was authorized to purchase the new bonds up to the limit of 15% of its capital and reserves. Towards the end of the decade the Bank was holding 85% of the bonds still in circulation.[39]

Before the expiration of the subsidy (March 15, 1933), coffee growers called for an extension of the bonus. This time circumstances were different. A great deal of reflationary measures had by then been taken -for instance three-quarters of the total SMC loan spent during the decade had already been disbursed-, and extraordinary increases in internal public debt were being carried out to finance the armed conflict with Peru which broke out in September 1932. Authorities then decided not to increase public debt once more but to adopt unprecedented measures concerning the exchange rate. Without affecting the exchange control arrangement, a system of multiple exchange rates was implemented. For the first time since the adoption of the gold standard in 1923, the government fixed exchange rates beyond the gold export point. Under the new system, the gold export point was chosen as the exchange rate for government payments in foreign currency, and higher and differentiated exchange rates were determined for exports and imports. In determining the differential, authorities sought not only to satisfy coffee growers aspirations but to extend that benefit to the rest of exporters. It was importers rather than the government budget who assumed the burden for such differential, as it would be the case under freely floating exchange rates.

What happened in Colombia with coffee growers' pressure for devaluation was the local experience of the then current behaviour in countries depending on primary exports. However, also in industrialized economies, farmers producing internationally-traded goods pressed hard for depreciation of the domestic currency. Wheat farmers in the United States

were an outstanding case.[40] In general, peripheral countries either in the sterling or the dollar area, and which were not involved in the group of pre-sterling depreciators, rapidly reacted to devaluation at the center by allowing their currencies to drift along with the sterling after September 1931, and with the dollar after March 1933.[41]

The fact that the United States went off gold in March 1933 had definitive implications for the Colombia's position regarding the exchange rate regime. As highlighted previously, Colombia strongly resisted the abandonment of the gold standard; the exchange rate was maintained within the gold points during eighteen months after the adoption of exchange controls, and even the implementation of the multiple exchange rate system in March 1933 was presented as a temporary measure while the gold standard could be reinstated. This strong persistence came to an end after the US dollar devaluation when the government allowed the Colombian peso to float with the dollar.

d. War debt financing

In mid-1932 policymakers could not foresee that a fact not directly related to the great depression would demand a huge expansion of internal public debt. Our underlying model is present here since the spurt of government expenditures demanded by a war with a neighbouring country was financed by an increased IPD. Further, as this subsection shows, authorities combined IPD and taxation so as to assure a rapid amortization of the costs of the war. This is an example of how authorities found it less costly to increase debt than taxation, but at the same time wanted to limit the expansion of the IPD. As the reader will remember, this is a central idea in our buffer-stock model of the IPD in Part III.

On September 1, 1932, a border conflict with Peru broke out. The indispensable reconstruction of the military sparked defense expenditures and significantly changed government spending composition. The disbursements by the Ministry of War increased from C$3.8 million in 1932 to C$16.8 million in 1933 and to C$24.6 million in 1934. These

changes explained 75% of the increase of total government expenditures between 1932 and 1934.[42] Regarding the destination of government expenditures, Table 45 shows that it substantially changed for the third time in less than a decade. During the foreign-lending-boom period 1926-1928, public works absorbed one-half of total spending. Next, during the adjustment period 1929-1932, public works involved less than one-fourth of official outlays while the Ministry of Finance became the major single source of government expenditures. It can be seen that during these periods, defense (or war) required less than 8% of official expenses, much less than the shares of public works and finance ministries. It was this situation which was to be altered during 1933-35 because of the armed conflict with Peru.

TABLE 45

COLOMBIA
GOVERNMENT EXPENDITURE
MAIN DESTINATIONS
1926 - 1940

(PERCENTAGES)

PERIODS	FINANCE AND PUBLIC DEBT	NATIONAL DEFENCE	PUBLIC WORKS	OTHERS	TOTAL
1926-28	15.0	7.2	50.5	27.3	100.0
1929-32	32.9	7.8	23.2	36.1	100.0
1933-35	26.2	27.8	15.8	30.2	100.0
1936-40	19.5	14.2	31.3	35.0	100.0

SOURCE.
Informe Financiero del Contralor. Various Years.

Although the state of war between the two belligerents ceased in May 1933, expenditures concerning national defense continued on a large scale for some years. As a result, a different structure dominated in 1933-35 when expenditures by the Ministry of War were the major single cause of government outlays. A very close share in expenditures was achieved by the Ministry of Finance; public debt payments constituted the largest single item, representing

80% of the outlays of that ministry. As expected, the importance of national defense declined substantially during the second half of the decade, but without turning back to the low levels of the 1920s.

How to pay for the war? Policymakers conceived a scheme in which resources would be provided by both internal indebtedness and taxation. Accordingly, the increased military expenditures would be immediately financed by bond issues or loans from the central bank, and the resulting increase of the stock of debt would be gradually amortized by specifically created taxes. There were practical financial reasons but also guiding rules behind this financial policy. It was easier to increase debt but authorities wanted to avoid a future excessive burden of interest payments. As stated by the minister of finance:

"... by following the guidelines of a sound financial policy the government has adopted the system of combining loans and taxes to support the requirements of the international conflict, since the exclusive use of debt would contribute to major future fiscal deficits, and the exclusive option of taxes would not be viable to finance the urgent expenses of the war".[43]

Apart from controlling the size of future deficits, authorities expressed the view that the current generation of citizens should contribute to the payment of the war. Not only for fiscal reasons, but also on grounds of justice, ordinary citizens should afford to sustain the conditions of citizens going to the battle front. In summary, the present generation should pay for the war, or at least, for most of it.

The first important measure to finance the war was the issue of the 4% Patriotic Defense Loan in 1932. The total issue amounted to C$10 million and was entirely sold out before mid-1933. By the end of this year, the new bonds represented 26% of total government bonds in the market (Table 41). 42% of the total issue was bought by the public, 31% by commercial banks, and the remaining 27% by other government entities. A new tax, the National Defense Tax was imposed in order to finance the amortization of the bonds.[44]

As the conflict went on, and the Patriotic Defense funds became insufficient, authorities turned to the central bank credit. In the first place, the government got an extraordinary loan for C$5 million, and once more imposed a special tax, the Military Quota, to finance its amortization. This was not the end of the story, however. The government had to borrow again from the central bank in two different ocasions, the first time C$5 million in 1933, and the second time C$3 million in 1934. On top of that, it was necessary for the government to issue Promissory Notes for C$5 million, and Notes for C$2 million during 1934. Table 41 shows the increase of internal debt with the central bank of some 30% due to defense loans between 1932 and 1933-34, and the additional sources of funding through Notes and Promissory Notes.

A summary of the contractual amounts and creditors of the war loans appears in Table 46. Some characteristics are worth noting. First, 5 out of the 6 loans were financed by the central bank; three of them were direct credit operations, and the other two purchases of notes and promissory notes. Regarding the amount of the loans, 67% of the resources borrowed by the government were originated in the central bank. Second, only 14% of the government securities involved in the defense loans were finally left in the hands of the public. Third, specific taxes were imposed to finance the amortization of the first two loans which represented 50% of all credits. Finally, in order to illustrate the relative importance of the national defense measures in the context of the reflationary policies of the time, a comparison of tables 44 and 46 reveals that the resources involved in the rescue measures of the financial sector which implied an increase in public debt represented only a 60% of those required by the national defense measures.

By 1939 the amortization of the national defense loans had been nearly accomplished. The Patriotic Defense Loan and the Military Quota Tax Loan had been amortized by the specific taxes created to that end.[45] The amortization of the remaining credits was carried out in a different way. By 1934 the government found it difficult to fulfil its financial obligations with the Bank of the Republic, and therefore a new arrangement between both parties was

agreed upon.[46] Regarding only the national defense loans it was agreed that they would be amortized during the next five years, and that the government would receive and apply to the reduction of its debt some of the profits resulting from the revaluation of the gold reserves of the Bank upon the devaluation of the national currency. The Bank was authorized to revalue its gold holdings according to the world price for gold, but the gold content of the Colombian peso was not redefined until 1938.[47] Once this redefinition was made, the balances due on the loans authorized by the Decrees 2028 of 1933 and 578 of 1934, as well as the 3% Promissory Notes of 1934 were paid off with part of the profits obtained by the government from the revaluation of gold reserves.[48]

TABLE 46

WAR DEBT FINANCING
(COLOMBIA - PERU CONFLICT)
PERIOD 1932 - 1934

(MILLIONS OF PESOS)

DATE	LOAN	AMOUNT	CREDITOR
1932	4% BONDS-PATRIOTIC DEFENSE LOAN	10.0	LOCAL GOVERNMENTS BANKS, PUBLIC
1933	3% MILITARY QUOTA TAX LOAN	5.0	BANK OF THE REPUBLIC
1933	DECREE No 2028 OF 1933	5.0	BANK OF THE REPUBLIC
1934	DECREE No 578 OF 1934	3.0	BANK OF THE REPUBLIC
1934	3% PROMISSORY NOTES -NATIONAL DEFENSE	5.0	BANK OF THE REPUBLIC
1934	3% AND 6% NOTES-WAR PURCHASES	2.0	BANK OF THE REPUBLIC
	TOTAL	30.0	

SOURCE.
Informe Financiero del Contralor. Various Years.

In summary, the burst of national defense expenditures after September 1, 1932, when the border conflict with Peru broke out, constituted a crucial factor of government expenditure recovery after the strong contraction of nominal official spending which dominated the 1929-31 period. Although hostilities between combatants lasted no more than nine months, defense expenditures dominated during the 1933-35 period, and maintained an unprecedented share in overall expenditures in the second half of the decade. This experience suggests that at least part of the temporary increased expenses required by the war, actually became permanent government outlays. The financing of the war implied an enlargement of the IPD which could not have been predicted by policymakers when other reflationary policies were put forward. Importantly, authorities insisted that the current generation should pay for the war, and in fact new taxes were created to amortize one-half of the increase of the IPD demanded by the war.

e. Monetary implications of the reflationary policies.

Since our previous subsections showed that much of the increase of the IPD was in the form of central bank loans to the government, we finish with a brief discussion of the corresponding effects on monetary aggregates. In particular, we concentrate on the changes in the monetary base. We also intend to underline the temporary character of the central bank loans to the government by comparing the 1932-34 experience with other periods.

Through loans to the government, investment in government bonds and the acquisition of shares of the CMB, the Bank of the Republic expanded the monetary base in about C$48 million during 1931-34. This figure is highly significant since it represented 93% of the expansionary changes of the monetary base in that period. Loans and investments are equally important regarding their monetary implications: 48% of the C$48 million was represented by loans, 27% by investments in public debt securities, and 25% by the investments in shares of the CMB.

TABLE 47

COLOMBIA
SOURCES OF CHANGES IN THE MONETARY BASE
1924 - 1937

(Millions of Pesos and Percentages)

	1924-1925		1925-1926		1926-1927		1927-1928		1928-1929		1929-1930		1930-1931	
		%		%		%		%		%		%		%
International Reserves	13.2	74.6	6.7	42.9	1.2	14.0	20.5	100.0	-27.0	95.7	-10.3	68.7	-13.6	83.4
Net Credit to Government	-6.7	63.8	5.1	32.7	3.4	39.5	-0.8	7.6	2.5	26.3	1.6	67.0	4.5	38.8
Net Credit to Private Sector	4.5	25.4	3.8	24.4	4.0	46.5	-6.4	61.0	7.0	73.7	-4.3	28.7	4.9	42.2
Financial Investments	-0.2	1.9	-0.6	14.3	-0.9	19.6	-0.7	6.7	-		-0.4	2.6	2.2	19.0
Other Net Assets	-3.6	34.3	-3.6	85.7	-3.7	80.4	-2.6	24.7	-1.2	4.3	0.8	33.0	-2.7	16.6
Expansionary Changes	17.7	100.0	15.6	100.0	8.6	100.0	20.5	100.0	9.5	100.0	2.4	100.0	11.6	100.0
Contractionary Changes	10.5	100.0	4.2	100.0	4.6	100.0	10.5	100.0	28.2	100.0	15.0	100.0	16.3	100.0
Change in Monetary Base	7.2		11.4		4.0		10.0		-18.7		-12.6		-4.7	

	1931-1932		1932-1933		1933-1934		1934-1935		1935-1936		1936-1937	
		%		%		%		%		%		%
International Reserves	3.4	18.6	-0.4	4.7	-0.7	100.0	16.1	78.2	9.8	59.0	-5.6	51.4
Net Credit to Government	8.2	44.8	7.4	36.1	1.3	10.2	-3.2	29.1	-0.8	61.5	0.2	1.8
Net Credit to Private Sector	-11.1	100.0	-4.5	52.9	3.6	28.1	-3.2	29.1	6.2	37.3	10.4	92.0
Financial Investments	6.1	33.3	13.1	63.9	3.8	29.7	4.5	21.8	-0.5	38.5	0.7	6.2
Other Net Assets	0.6	3.3	-3.6	42.4	4.1	32.0	-4.6	41.8	0.6	3.7	-5.3	48.6
Expansionary Changes	18.3	100.0	20.5	100.0	12.8	100.0	20.6	100.0	16.6	100.0	11.3	100.0
Contractionary Changes	11.1	100.0	8.5	100.0	0.7	100.0	11.0	100.0	1.3	100.0	10.9	100.0
Change in Monetary Base	7.2		12.0		12.1		9.6		15.3		0.4	

Sources. Estimates according to data in Triffin (1944), p.38-39

A broader perspective of the monetary implications of the recovery policies is offered in Table 47, which describes the main expansionary and contractionary sources of the monetary base since the mid-1920s. The contrast between the period of active expansionary monetary measures (1931-34) and the period of passive accommodation to the gold-standard rules is clear. Coinciding with the boom-and-bust cycle of the external sector (1924-1931) the predominant factor of expansion (1924-28) and contraction (1929-31) of the monetary base was the increase followed by deep decrease of international reserves. Along this external cycle the net credit to the private sector was expansionary although in modest magnitudes if compared with the relatively huge changes in international reserves; additionally, the net credit to the government which caused a negligible expansion during 1924-28, became more relevant, though still in small amounts, during 1928-31.

After the imposition of exchange controls, the adoption of reflationary measures, and the extraordinary national defense loans, the expansion of the monetary base was led by the investments -in government bonds and MCB's shares- and loans to the government made by the Bank. These unprecedented operations largely offset the contractionary influence of the net credit to the private sector, and substantially exceeded the incipient expansionary contribution of international reserves.

Finally, a different picture emerges from the experience of the 1935-37 period: international reserves were again the leading expansionary factor of the base money, followed by the credit to the private sector, and the credit to the government became a source of contraction of the monetary base. The contrast between the 1932-34 and 1935-37 periods, or alternatively, the similarities between the experiences in the 1920s and after 1935, underscores the temporary character of the extraordinary financing granted by the Bank to the government during 1932-34.

C. "Defaulting" on external debt, 1931-1935.

As noted in the introduction, the second main topic of this section is the Colombian default on the external debt in the early 1930s. In the description of asset-market linkages during the great depression (subsection A.4. above), we mentioned the negative effects on government finances of adverse external shocks. Apart from the cutback of foreign lending and the collapse of imports which constituted a vital source of tax revenues, other factors seriously eroded the position of the country as foreign debtor: the downfall of exports which substantially undermined standard indexes of creditworthiness, and the wave of sovereign defaults which spread around Latin America since early 1931 before involving East European countries in 1932, and the major foreign debtor, Germany, in 1933.

How did Colombia try to fulfill her international obligations after the outbreak of the great depression in late 1928? Authorities always believed that by preserving the gold standard and keeping up external debt payments the country would recover the access to external credit. By mid-1931, after three years of deflationary policies, exhausted international reserves, and other countries in the region going off gold and defaulting on their external debts, there was little hope of a normalization of foreign financing. After Britain went off gold in September 21 1931, Colombia imposed exchange controls (September 24) and announced controls on the external debt service (October 31).

The default on the external debt was not an outright declaration but a protracted process between 1931 and 1935. The first subsection describes the gradual way in which default on the external debt was carried out, and the second one reports the reasons for formally defaulting on the external debt; we refer to "formal default" since as we will see in Section III, an important fraction of the external debt was repaid while the country was officially in default. In the last two subsections we investigate the reactions of foreign creditors to the process of default, focusing our attention on three subjects: the behaviour of debt prices, the individual relationships between creditor countries and debtor countries, and the official declarations of creditors.

1. The gradual process of formal default

The first measure orientated to control external-debt payments was adopted on October 31, 1931, only five weeks after the "temporary" imposition of foreign exchange control. Under the new regulation, all applications for permission to transfer funds abroad by departments, municipalities and mortgage banks for payment of the service of foreign loans should be subject to the verdict of the Board of Control of Exchange and Exports.[49] That verdict would depend on the availability of international reserves. Although the new regulation opened the possibility of postponing payments on foreign debt, it also determined that when applying for foreign exchange, debtors should make deposits in local currency in the central bank, in favor of the creditors; the amount of those deposits would be the required to finance the external payments, and the actual transfer of funds out of the country would be authorized by the Control Board.

A second step was taken by December 1931, but only officialized two months later.[50] This time the government put forward a plan according to which there would be a temporary suspension of amortizations on the external debt, and the interest on debts not covered by government guarantee would be a responsibility of the national government. This interest would be paid not in cash but by means of certificates with an interest rate of 6% and a maturity of 3 years. The plan was presented as accepted by the majority of creditors, since apart from the capitalization of interests embodied in the issue of the certificates, the local-currency-denominated deposits by debtors in the Bank of the Republic would secure the continuity of external debt payments once the foreign- exchange situation was normalized.

The practical viability of the plan found insurmountable problems, however. Two decisive debtors, the departments and municipalities, altogether responsible for about 57% of the dollar-denominated public and publicly-guaranteed debt, defied the national government agreement with creditors, and opted for suspending their local currency deposits in the Bank of the Republic. This position, adopted during March-April 1932, amounted to an unilateral

moratorium which led the national government to announce in May its inhability to comply with the plan suscribed in February, and its decision of maintaining the interest payments on the national debt and on the publicly-guaranteed debt of the Agricultural Mortgage Bank.[51]

A final measure was issued in March 1933, which provided that given the financial strains created by the border conflict with Peru, the service of interests on the national debt and on the obligations of the Agricultural Mortgage Bank had to be suspended.[52] However, creditors were offered an alternative way of payment for the interests due in 1933 and 1934. Coupons due in 1933 would be paid 1/3 in cash and 2/3 in non-interest bearing deferred interest certificates maturing by October 1, 1937. Coupons due in 1934 would be paid by issuing 4% funding certificates to be redeemed by January 1, 1946.[53] Lastly, authorizations were given to arrange future negotiations with foreign creditors.

The gradual process of actual default is summarized in Table 48. As seen, default on either sinking fund or interests spread along two years between October 31 1931, and October 1 1933. Bogota started the chain of defaults by defaulting on the sinking fund of one of its liabilities the same day in which the national government determined that external debt payments by municipalities and other debtors should be subject to exchange control. Another municipality, Barranquilla, defaulted on the sinking fund of all of its liabilities exactly the day after. By the end of 1931 when the national government was reaching an agreement with creditors in order to temporarily suspend debt amortizations, 70% of the outstanding debt of municipalities was already in default as to sinking fund. Additionally, 55% of the same debt was also already in default as to interest.[54]

Default widened in 1932 embracing all the departmental governments. Interestingly, 46% of the outstanding debts was already in default as to sinking fund when the national government decreed the suspension of debt amortizations in March 1932. Default also involved the bonds sold abroad by mortgage banks; in the case of the Agricultural Mortgage Bank whose debt was guaranteed by the government, default on sinking fund took place during the first four

TABLE 48

COLOMBIA'S BONDED EXTERNAL DEBT
Public and publicly guaranteed

Defaults in period 1931 - 1933

	ISSUED	OUTSTANDING AFTER DEFAULT	DATE AND NATURE OF DEFAULT SINKING FUND	INTEREST
I. NATIONAL GOVERNMENT				
A. STERLING LOANS	£	£		
1906, 5% Sabana Railway	300,000	79,840	June 1, 1932	June 1, 1933
1911, 6% Girardot Railway	300,000	122,560	March 1, 1932	March 1, 1933
1913, 6% Girardot Railway	1,468,958	805,790	March 1, 1933	March 1, 1934
1916, 5% Northern Railway	80,000	47,350	July 1, 1932	July 1, 1933
1920, 6% Puerto Wilches Railway	428,580	335,320	Nov 1, 1932	Nov 1, 1933
B. U.S. DOLLAR LOANS	$	$		
1927, 6% Republic of Colombia	25,000,000	21,205,000	July 1, 1933	July 1, 1933
1928, 6% Republic of Colombia	35,000,000	30,018,500	April 1, 1933	Oct. 1, 1933
II. DEPARTMENTAL GOVERNMENTS				
1925, 7% Antioquia (Series A, B, C, D)	20,000,000	17,172,000	Jan 1, 1932	July 1, 1932
1927, 7% Antioquia (1, 2, 3 Series)	12,350,000	11,507,000	Apr 1, 1932	Apr 1, 1932
1926, 7 1/2% Caldas	10,000,000	8,596,500	Jan 1, 1932	July 1, 1932
1926, 7 1/2% Cauca Valley	4,000,000	3,408,500	Oct 1, 1932	Oct 1, 1932
1928, 7% Cauca Valley	4,500,000	3,865,000	June 1, 1932	June 1, 1932
1928, 6 1/2% Cundinamarca	12,000,000	11,537,000	May 1, 1932	May 1, 1932
1928, 7% Santander	2,000,000	1,791,000	Apr 1, 1932	Apr 1, 1932
1927, 7% Tolima	2,500,000	2,112,000	Febr.19, 1932	May 1, 1932

TABLE 48

(CONTINUED)

III. Municipal Governments				
1925, 8% Barranquilla (Series A)	500,000	142,400	Nov 1, 1931	Dec 1, 1932
1925, 8% Barranquilla (Series B)	500,000	292,300	Nov 1, 1931	Dec 1, 1932
1926, 8% Barranquilla (Series C)	500,000	422,600	Nov 1, 1931	Dec 1, 1932
1928, 8% Barranquilla (Series D)	500,000	448,000	Nov 1, 1931	Jan 1, 1933
1929, 8% Barranquilla (Series E)	500,000	475,100	Nov 1, 1931	Dec 1, 1932
1924, 8% Bogota	6,000,000	4,682,000	Apr 1, 1932	Apr 1, 1932
1927, 6 1/2% Bogota	2,700,000	2,257,500	Oct 31, 1931	Apr 1, 1932
1927, 7% Cali	2,885,000	2,408,000	May 1, 1932	May 1, 1932
1926, 7% Medellin	3,000,000	2,644,000	Dec 1, 1931	Dec 1, 1931
1928, 6 1/2% Medellin	9,000,000	8,378,000	Dec 1, 1931	Dec 1, 1931
IV. Corporate (Publicly guaranteed)				
A. Sterling Loans				
1929, 6.5% Agr. Mort. Bank	1,200,000	1,132,800	Apr 24, 1932	Apr 24, 1933
B. U.S. Dollar Loans				
1926, 7% Agr. Mort. Bank	3,000,000	1,796,000	Jan 1, 1932	Apr 1, 1933
1927, 7% Agr. Mort. Bank	3,000,000	2,217,500	Jan 15, 1932	Jul 15, 1933
1927, 6% Agr. Mort. Bank	5,000,000	2,997,000	Feb 1, 1932	Aug 1, 1933
1928, 6% Agr. Mort. Bank	5,000,000	3,278,000	Apr 15, 1932	Apr 15, 1933

Sources.
For Sterling loans, Informe Financiero del Contralor, 1937, and CFB, 1938.
For Dollar loans, FBPC, 1936.

TABLE 48

(CONTINUED)

SUMMARY

OUTSTANDING PUBLIC DEBT IN DEFAULT

End of 1933

	$	$	%
I. National Government		57,092,929	37.0
A. Sterling Loans (£1=US$4.22)	5,869,429		
B. U.S. Dollar Loans	51,223,500		
II. Departmental Governments		59,989,000	38.9
III. Municipal Governments		22,149,900	14.4
IV. Corporate (Guaranteed)		15,068,916	9.7
A. Sterling Loans (£1=US$4.22)	4,780,416		
B. U.S. Dollar Loans	10,288,500		
Total		154,300,745	100.0

months of 1932, and on interests between April and August, 1933. As seen above, the government offered to pay part in cash and part in certificates for the interests due by the Bank in 1933; accordingly, certificates for an amount of £50,037 were issued in London, and certificates for an amount of US$340,298 were issued in New York. Additionally, for full payment of coupons due from January 2, 1934 to January 1 1935, certificates for £73,632 were issued in London, and for US$666,255 in New York. Finally, coupons due July 1, 1935 and since not paid until offers were made by the Bank to the creditors in 1942. This negotiation is discussed in Section III below.

The national government fulfilled its external obligations well into 1933, as far as the dollar debt is concerned. In the case of the 1927 loan, interest and sinking fund were suspended in July, and regarding the 1928 loan the sinking fund was suspended in April and interest in October. In this way, these loans which represented one-third of public and publicly guaranteed debt went into default. As for the sterling loans, the evidence suggests that they were discriminated against by the Colombian government, since sinking-fund payments were suspended in 1932. Interests, though, went into default exactly one year later according to the coupon dates. Finally, as previously noted, the national government issued certificates to complete the interest service of 1933, and to effect the interest service up to January 1, 1935. In the first year, certificates for an amount of £36,272 were offered in London, and for an amount of US$1,448,570 were offered in New York; in the second year, certificates for £82,261 were offered in London, and for US$3,073,410 in New York. Coupons due July 1, 1935 and since not paid until offers for a permanent settlement were made in 1940 regarding the dollar debt, and in 1942, regarding the sterling debt.

Once the process of gradual formal default on sinking funds was completed in mid-1933, the outstanding dollar loans represented 93% of the nominal stock of public and publicly-guaranteed debt which would be subject to future negotiations. The sterling loans had some relative importance in the case of publicly-guaranteed corporate debt, since 32% of loans to the Agricultural Mortgage Bank was placed in London, or in other financial centers but

denominated in sterling (Table 48. Summary IV). Interestingly, the debt of the national government represented only 37% of the public and publicly guaranteed debt; and because the publicly guaranteed debt amounted to some 9.7% of the same total, the national government was left with a direct responsibility over only 46.7% of the public and publicly guaranteed debt. The departments (6 different regional entities) represented 38.9%, and municipalities (4 different entities) represented 14.4% of the public and publicly guaranteed debt. As a whole, 53.3% of the public and publicly guaranteed debt was in the hands of 10 government entities different from the national government.

What was the nominal external debt service burden by the time the last payment on sinking funds was made? An estimate of the service on total external debt (public, publicly guaranteed, and private) which debtors would have been charged had they paid sinking funds and interests in full during 1933 is offered in Table 49. As seen, the total principal and interests charged amounted to about US$19 million per annum, of which 50% resulted from departmental and municipal debts. Hence, when after consultation with foreign creditors the government put forward its plan of February 1932, referred to above, of temporary suspending amortizations and interests on debts not covered by government guarantee, the idea was to reduce by one-half the foreign exchange disbursements caused by the external debt service until a satisfactory foreign-exchange position of the country could be reached. Because as seen before, both departments and municipalities rejected the government's plan, and some of them were already in default, the aforementioned reduction of foreign exchange disbursements actually took place regardless of negotiations between the national government and creditors. Finally, it can be seen that the sole effort of the national government for sustaining its total annual debt service and the interest charges of the Agricultural Mortgage Bank, as happened between mid-1932 and mid-1933, barely represented more than one-third of the annual external debt service of the country.[55]

2. The reasons for formally defaulting on external debt

TABLE 49

COLOMBIA
ESTIMATED EXTERNAL DEBT SERVICE CHARGES

END OF 1933

	(1) Average Term (Years)	(2) Average Contractual Rate %	(3) Nominal Issues (US$ million)	(4) Outstanding Amount (US$ million)	(5=3/1) Principal Charges (US$ million)	(6=2x4) Interest Charges (US$ million)	(7=5+6) Annual Service (US$ million)
I. Dollar Loans							
National Government	33.0	6.0	60.0	51.2	1.8	3.1	4.9
Departments	22.2	7.05	67.4	59.9	2.7	4.2	6.9
Municipalities	20.7	7.35	26.1	22.1	1.1	1.6	2.7
Mortgage Banks	20.0	6.72	38.0	22.7	1.1	1.5	2.6
(AMB)	(20.0)	(6.50)	(16.0)	(10.3)	(0.8)	(0.7)	(1.5)
Total			191.5	155.9	6.7	10.4	17.1
II. Sterling Loans (£1=US$4.22)							
National Government	40.2	6.0	10.9	5.9	0.3	0.4	0.7
Mortgage Banks	30.0	6.75	14.3	12.2	0.5	0.8	1.3
(AMB)	(30.0)	(6.5)	(5.1)	(4.8)	(0.1)	(0.3)	(0.5)
Total			25.2	18.1	0.8	1.2	2.0
Grand Total			216.7	174.0	7.5	11.6	19.1

Sources. For Sterling Loans to government entities, Informe Financiero del Contralor, 1937, and CFB, 1938.
For Dollar Loans to government entities, FBPC, 1936.
For Sterling and Dollar Loans to mortgage banks, Revista del Banco de la Republica January, 1935.

By the end of 1931 the foreign exchange situation became a powerful argument for formally defaulting on the external debt service. As seen in Table 37, the country became a net capital exporter since 1930. The burden of financial payments abroad caused a reduction of international reserves from US$37.7 million in 1929 to US$27.4 million in 1930, and to US$13.8 million in 1931. Without an important injection of external credit, which by the end of 1931 appeared to be unlikely, the existing stock of international reserves could risk depletion.[56] To avoid this possibility, the government adopted the measures described before, which initially only sought to ration external debt payments according to the availability of foreign exchange.

Default was not only a gradual process. Authorities at the national level were clearly reluctant to give up payments. In spite of the process of default going on in Latin America and Europe, the national government kept up regular amortizations well into 1933. Authorities expressed that maintaining payments coincided with "national interests" and rejected internal pressures for a moratorium. An explicit statement was left by the manager of the Bank of the Republic, just two months before the adoption of the measure which determined that debt-service payments should be subject to the decision of the Control Board:

"... a debate has arisen about whether it is possible and convenient for the Nation to maintain punctual payments on her external debt service, as it has been so far, or whether it is the case of applying to her creditors for a moratorium. On account of that debate the President of the Republic and the Minister of Finance have emphatically ratified the resolution of the government of punctually fulfilling the external debt service of the Nation, and the Senate, by a nearly unanimous vote declared that the decision of the government of keeping up external debt payments is convenient for the high and permanent national interests.

In our concept, the Colombian policy cannot be otherwise, regardless of the sacrifices it may demand".[57]

Meanwhile, some international analysts still believed that the ability of the country to keep up payments could be assured by the fiscal retrenchment already applied in Colombia, and satisfactory trade balances. However, the internal political tensions about the external debt service mentioned by the manager of the Bank of the Republic were seen by the external commentators as an important source of uncertainty. In an illustrative example, officials of

the Bank for International Settlements informed the secretary of the Council of Foreign Bondholders (CFB) which represented the interests of British investors, about recent events and prospects of service of the Colombian external debt.[58] In discussing the financial position of Colombia, those officials remarked that they "had no reason to anticipate any failure on its part to meet its external obligations" though some commitments, particularly the municipal ones were considerable; however, some elements of "political instability... may result in adverse changes of policy and internal lack of confidence".[59] What were those elements of concern?

Officials mentioned the internal controversy on the part of both "the public and the press as to the desirability of a moratorium or reduction in the payment of interest on the public debt", and the fact that Congress had appointed a commission "to discuss the possibility of a moratorium amongst other possible means of alleviating the situation". However, the correspondence also stressed the position of the government by communicating that "the President has attempted to allay fears by cable to the Colombian Minister in Washington announcing his government's inflexible determination to meet their obligations".[60]

The government was not only unwilling to default on its external bonded debt, but explored different alternatives of external financing once the viability of fresh financing with international banks was deemed improbable.[61] In particular, the government tried to arrange monopoly contracts with foreign firms in exchange for loans. There existed a recent precedent in Ecuador where the Swedish Match Company extended the government the only public foreign loan negotiated by that country during the lending boom of the 1920s.[62] Although eventually this contract was short-lived, it served as a reference for the Colombian initiative.[63]

Early in 1931 the Colombian government asked Congress to authorize the grant of a match manufacturing monopoly in return for US$10 million of advanced royalties. Although it was initially understood that the Swedish Match Co. would be the beneficiary of the monopoly,

further speculations mentioned the name of Kreuger and Toll who would issue a US$20 million loan in exchange for the monopoly.[64] Eventually, when in September 1931 Congress granted extraordinary powers to the national government to take extraordinary economic measures, explicitly excluded from those authorizations that of establishing monopolies.[65] This was the end of the monopoly contract initiative of financing.

Without access to long-term private lending since the collapse of the U.S. foreign bond market, facing the unlikely possibility of significant short-term loans from international banks, and inhibited to arrange, if it were possible, monopoly contracts in exchange for foreign financing, the possibility of defaulting on the external debt service had to be considered by the government given the extremely fragile foreign-exchange situation. Exceptionally, the government managed to contract debts in 1933 with Belgian and French companies for railway construction. The total amount of the loans, US$3.2 million, was fully amortized by 1935.

Default was seen as a last-resort and temporary option. When the first measures were adopted in October 1931, authorities arranged a settlement for the external bonds of the political subdivisions which called for making debt service deposits in Colombian pesos. As seen before, this settlement had to be abandoned once departments and municipalities interrupted such deposits. The reaction of the national government was transmitted to the creditors in a public announcement (May 25, 1932) as follows:

"The government regrets this decision but the matter permits of no other solution under the Colombian Constitution, which guarantees a considerable degree of autonomy to the Departments and Municipalities in the management of their own affairs".[66]

The failure of the settlement for the debt of the political subdivisions implied that 47% of the <u>total</u> external debt of the country, or 57% of the dollar-denominated public and publicly-guaranteed debt went into default, not within the <u>temporary</u> scheme agreed with creditors but in a more <u>permanent</u> and uncertain way. The fact is that departments and municipalities had found that settlement inconsistent with their precarious fiscal situation, and individually, as

well as a group, had openly rejected it.[67] Treating the posture of the political subdivisions as a fact of life, the government opted for abandoning the offer initially made to the creditors of paying scrip to holders of departmental and municipal bonds upon which suspension of sinking fund payments had taken place. In this new situation, the government confined itself to the payment of interests and sinking fund on the national debt, and of interests on the publicly-guaranteed debt. This was a deliberate decision orientated to bolster up the credit of the national government, considering future possibilities of foreign financing.[68]

The persistence of the national government in fulfilling its external debt committments was broken by the financial demands of the border conflict with Peru. Lazard Brothers and Co. Ltda., the banking house which issued the sterling loans to the national government and mortgage banks received the following statement from the Colombian minister of finance:

"Notwithstanding the profound financial crisis...the government has been meeting punctually up to the present the interest on the national debt and on the bonds of the Agricultural Mortgage Bank guaranteed by the government. In order to carry out this policy the country has had to endure the restriction of imports, the regulation of exchange transactions and the reduction of public expenditure... by more than a half. Unfortunately, an unjust aggression... requires to economize the national gold reserve and Treasury resources for the expenses demanded...

The termination of payments has a temporary character, and its duration depends upon the duration and magnitude of the conflict with Peru..."[69]

As noted before, authorities tried to keep a stream of interest service payments by offering a combination of cash and scrip payments to holders of bonds of the national government and the Agricultural Mortgage Bank. This offer covered coupons due from April 1, 1933 to January 1, 1935 inclusive. A similar or alternative offer was not made at the beginning of 1935. The government communicated its decision to the creditors. Thus, in a laconic message, the minister of finance advised Lazard Brothers and Co. that no provisions had been made for the payment of coupons due in 1935:

"The government has not received authority from Congress to issue scrip to meet the coupons falling due during the current year, and no issue of scrip will consequently be made. The government has the whole question of the external debt under earnest consideration and hopes to discuss it with its bondholders in the near future"[70]

This statement and similar messages sent to representatives of holders of dollar loans closed the intermittent and formal process through which the government tried to avoid or postpone a complete default. Although consecutive measures were presented as "temporary" restrictions on the transfer of debt payments, it was clear that the national government gradually lost control over the external debt of the country, and progressively became unable of satisfying its nominal contracts with creditors, until a formal default became total in 1935.

3. The investors' perspective. Colombia's debt prices in the Latin American context.

In our account of asset-market linkages during the great depression (subsection A.4. above), we highlighted the adverse effects of foreign debt problems in neighbouring countries on the external credit to Colombia. In this subsection we follow the fate of the prices of the Colombian borrowers and observe how those prices collapsed before default actually took place. We find possible explanations of this development in the mushrooming foreign debt crisis of the time. We also notice how individual countries fared differently according to considerations of international politics. These political relationships were well mirrored in the behaviour of debt prices.

Official declarations were not the only information received by creditors about the future course of Colombia's external debt payments. The quotations of Colombian bonds in the London and New York stock exchange markets reflected the expectations of investors about the quality of the country's external debt. An idea of how these expectations changed over time is offered by the evolution of prices of Colombian bonds in the London Stock Exchange.[71] Table 50 shows year-end quotations for the 1925-35 period, and Graph 31 describes a longer perspective for the 1920-sterling loan for which more complete information is available.[72]

TABLE 50

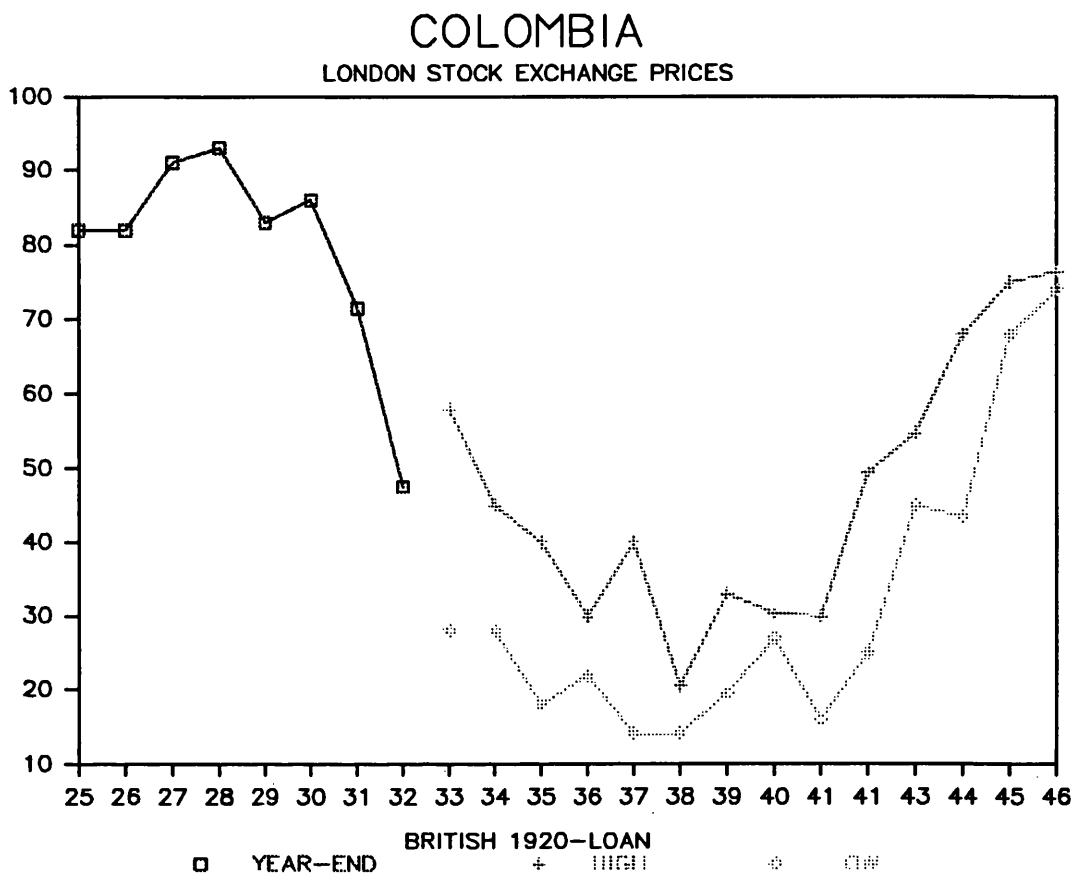
PRICE OF COLOMBIAN BONDS
London Stock Exchange
1925 - 1935
(%)

	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935
I. NATIONAL GOVERNMENT											
1906, 5% Republic of Colombia	83	*	*	81	*	68 1/2	70-80	40-50	*	*	20
1911, 6% Republic of Colombia	84 1/2	82 1/2	91 1/2	93 1/4	82 7/8	93 7/8	*	40-50	*	*	29
1913, 6% Republic of Colombia	86	86	92	95	84 1/2	86	72 1/2	47 1/2	60-28	46-28	44-18
1916, 5% Republic of Colombia	65	67	72 1/2	76	70	62	50-60	40-50	*	*	21 1/2
1920, 6% Republic of Colombia	82	82	91	93	83	86	71 1/2	47 1/2	58-28	45-28	40-18
II. MORTGAGE BANKS											
1928/29, 7% Mort. Bank of Bogota				98	89	78 1/2	51 1/2	42	45-22 1/2	*	21-13
1929, 6.5% Agr. Mort. Bank					80	80	72 1/2	49 1/2	58 1/2-34	45 1/2-31	39-18

NOTES.
Year-end prices, unless a range is specified.
(*) Not available.

SOURCES.
The Stock Exchange Yearbook (London). Annual Issues.
The South American Journal (London), December 1935

GRAPH 31



SOURCE.
The Stock Exchange Yearbook. Annual Issues.

As seen, the prices of the Colombian debt in London were high and improving as the country got access to the U.S. lending boom of 1925-1928. At its height in 1928, the weighted average price was 95.8%. Thereafter, prices declined, and by 1931 the weighted average quotation had fallen to 62.5%. A great deal of the highest and lowest quotations is explained by the prices reached by the Mortgage Bank of Bogota loan, the single sterling credit sold by the private sector; when this loan is excluded, the relevant weighted averages are 93.7% for 1928 and 72% for 1931. It has to be noted that by the end of 1931 both the government and the banks had entirely fulfilled their financial commitments with British investors; consequently the fall of more than 20 percentage points in the average quotation would have to be explained by reasons apart from the punctuality in debt service payments.

The experience in 1932 was different, however; quotations fell sharply after the suspension of sinking fund payments on all but one of the loans to the national government (Table 48), and on mortgage bank loans. A temporary recovery seems to have happened in 1933, in conformity with the scanty information in Table 50; according to reasons given below in Section III about debt repatriations, acquisitions of bonds by the government and banks in the open market could have prompted a short upturn in 1933. Finally, a sequence of depressed quotations dominated the rest of the decade and the early 1940s when the sterling debt was renegotiated. The final upswing since 1941 shown in Graph 31 reveals the normalization of debt payments.

Some hypotheses can be offered to explain the early decline of bond prices long before the first suspension of debt service actually took place in 1932. As previously discussed (Section I of this part), indexes of creditworthiness for peripheral countries were adversely affected by the world economic crisis. While the real value of external debts increased due to price deflation, the ability to pay was weakened by falling terms of trade. As far as this process aggravated, markets had to reflect its negative impact on the quality of external debts. Being one of the main Latin American debtors, Colombia was exposed to the adverse effects of the world crisis, independently of her punctuality in debt repayments. Markets had also to reflect the process through which economies in different continents were going off gold and imposing exchange control. Finally, markets had to reflect the wave of defaults which involved five Latin American countries in 1931, spread to Eastern Europe in 1932, and affected the major beneficiary of the U.S. lending boom of the 1920s, Germany, in 1933.

A more complete idea of the Colombian experience is offered by the evolution of dollar-bond prices shown in Table 51. This time, the series describe the range between highest and lowest quotations for every year rather than year-end prices. To start with 1930, it is seen that the highest quotations for departmental, municipal and mortgage bank bonds, in most cases exceeded the highest quotations for the national government bonds; however, the range of fluctuation was narrower for the national government security prices than for other bond

TABLE 51

PRICE RANGES OF COLOMBIAN GOLD BONDS (%)
PUBLIC AND PUBLICLY GUARANTEED

New York Stock Exchange

1930 - 1936 and 1939 - 1944

	1930	1931	1932	1933	1934	1935	1936	1939	1940	1941	1942	1943	1944
I. National Government													
1927, 6% Republic of Colombia	83	78	40	49 1/2	40 1/2	37	31 1/2	34 5/8	34	43 1/2	52	64	69 1/2
	55	19	13 7/8	16 1/4	21	17 7/8	19	19 3/4	15 3/4	30	37 3/4	52	57 1/4
1928, 6% Republic of Colombia	81 7/8	78	40	49	39 5/8	36 1/2	31 1/2	34 5/8	34 1/4	43 1/4	52	64	69 1/2
	55 1/4	19	13 1/2	16 1/2	21 1/2	18	19	19 3/4	15 3/4	30	39 3/4	52	57 1/4
1934, 4% Funding Certificates					56 1/2	54 1/2	54	80	80	88	89 1/2	90	90
					24	35	40	51	66	76	84	87	87
1940, 3% Republic of Colombia										35 1/8	39 1/4	48 3/4	51 1/4
										28	29 1/2	38 1/2	39 3/4
II. Departmental Governments													
1925, 7% Antioquia (Series A)	87 3/4	69	16 7/8	20 5/8	17 3/4	11 3/4	22	17 1/4	15 3/4	11 3/4	15 1/2	24	36 1/2
	53	10	3	7	8 1/8	6 3/4	7 3/4	10 1/2	7 5/8	7 1/4	10 1/8	15 1/2	17
1927, 7% Antioquia (1st Series)	89	67 3/8	15	18	14 3/4	10 1/4	18	16 1/4	14 3/8	11 1/2	15 1/8	25 5/8	32
	41 3/4	8 1/4	4	4 5/8	7 7/8	6 1/4	7 1/2	9 1/4	7 1/4	6 7/8	10 5/8	15 1/4	16 5/8
1926, 7 1/2% Caldas	93 1/2	76	22	24	18 3/4	14	13 1/8	19 1/4	17	13 3/8	15 1/2	24	32 1/2
	56	14	8	11	10 3/8	8 5/8	9 7/8	12 1/2	8	7 1/2	9 1/2	15 1/4	16 1/2
1926, 7 1/2% Cauca Valley	95	77 1/8	19 1/2	21 7/8	19	13 1/2	12 1/2	19 3/4	17	13 1/8	15 1/2	24	31 1/2
	52 3/4	10	5 1/8	8 1/2	10 1/4	7 3/4	9	13	8	7 1/2	9 1/2	15 1/4	16
1928, 7% Cauca Valley	89	75	15 7/8	19 3/4	16	11	18	18	15	11 3/4	15 1/8	23 1/2	30 3/8
	51	10	3	7	8	6	7 5/8	10	7	6 1/2	9 1/8	14 1/4	16 1/8
1928, 6 1/2% Cundinamarca	84	69 1/2	17	22 3/4	19 3/4	14 3/8	15 1/4	18 1/4	18	12 1/4	15	23	30
	42	13	5	10 1/8	10 1/8	8 1/2	10	11	7	6 1/2	9	14 1/4	15

1928, 7% Santander	78	67	20	16 1/4	16 1/2	13 1/4	17 1/2	21 1/2	18	16	17 1/2	25	46
	50	21	5	8	11	7	9 1/2	15 1/2	11	10 1/2	12 1/2	17 1/2	21
1927, 7% Tolima	87	69	18	18	17	12 1/4	11 7/8	21	18	20	18 1/2	26	46
	44	14 7/8	5 1/2	8	10 1/2	8 1/2	9 1/8	14 1/4	11	17	14 1/2	18 1/2	21

TABLE 51

(CONTINUED)

	1930	1931	1932	1933	1934	1935	1936	1939	1940	1941	1942	1943	1944
III. Municipal Governments													
1925, 8% Barranquilla (Series A)					20	15 7/8	25						
					15	10 3/4	15						
1939, 4% Barranquilla									36	34 1/2	45 1/2	67	73
									26	31	31 1/2	45 1/2	66
1924, 8% Bogota	99 1/2	92	22	30	24	18	21 1/2	20	20 1/2	20	23	35	49
	71	13	6 3/4	15	17 1/8	9 1/2	13	12 1/2	11 1/2	14	14	22	31
1927, 6 1/2% Bogota	78	78	19	25 1/4	20 1/2	16 1/2	22	21 1/2	20 1/2	20	24	37	49
	70	15	7	15	16 1/2	9	13	16	13	14	15	23	33
1927, 7% Cali	81	65	14	18 1/2	17	13	18	28	27	20	23	32	45
	49	14	4 1/2	6 1/2	9	6 3/4	10	19	15	14 1/2	16	23	30
1926, 7% Medellin	92 1/2	79	19	23	20 1/8	13	19 1/2	18	15	11 1/2	15 1/2	24 3/4	34 3/8
	65	15	9 3/4	10	10 3/4	8 1/2	9 1/8	11	7 5/8	7	9 3/4	16 1/4	18
1928, 6 1/2% Medellin	80	75	18 1/2	23	16 3/8	10 1/4	17 1/4	16 1/4	14 1/2	11	15 1/2	23 1/4	34
	39	9 1/2	7	7 5/8	8 1/4	6 1/4	7 1/4	10	7	6 1/8	8	15 3/8	16 3/4
IV. Corporate with gov. guarantee)													
1926, 7% Agr. Mortgage Bank	95	88 1/2	39	41	37 1/2	38	23 7/8	28 1/4	29	28 1/2	44	54 1/2	62
	60 1/2	17	22	17 1/2	18 1/4	15	17 1/8	23 1/2	20 1/8	21 3/4	25	52	51 1/2
1927, 7% Agr. Mortgage Bank	89 1/2	79 5/8	39 1/2	40 1/8	37	35 1/2	22 1/2	27 1/4	28 1/2	28 1/2	44	54 3/4	61 1/4
	60	15	21	16	19 1/4	15 1/4	17 1/2	26	20	22 1/2	25	46	54
1927, 6% Agr. Mortgage Bank	86	73	41	37 1/4	35	33 1/2	26	28	28 7/8	28 1/2	44	55	60
	49 3/4	14	22	17 1/8	18 3/4	14 1/4	17 1/8	22 1/4	20	23	25	44	53
1928, 6% Agr. Mortgage Bank	80 1/2	73 1/2	41	36 3/8	38	32	25 1/2	28	29	28	44	54 1/2	61 1/2
	48 1/2	15 1/8	22 1/2	17 1/8	15 3/8	16	17 7/8	24	20	22 1/8	25 1/2	46	50 1/2

SOURCES.
FBPC. Annual Report, 1936 and 1944.

quotations. It can be seen that in spite of remaining within the gold standard, enforcing an orthodox macroeconomic adjustment, and being punctually fulfilling the external debt service, bond prices were far from encouraging: two-thirds of the lowest quotations of all securities were already equal to or below 55%, and perhaps more indicative, the quotations of the national government bonds did not compare well with the prices obtained by other major indebted countries in the region. For loans contracted at the same time that Colombia negotiated her national 1927-1928 loans, and for comparable amounts, Chile got a price range of 94-70, Brazil reached 87 7/8-47 1/2, and Argentina got 98 1/2-82 1/2. Argentina and Chile had so far experienced a light and similar deterioration of terms of trade, while Colombia and Brazil had already endured a terms of trade loss of 26% and 38% respectively (Table 32 above).[73]

By the end of 1931 a sharp fall in the lowest quotations had affected all Colombian dollar bonds, since all but one faced prices below 20%. The range of variation of national bond prices was of 60 percentage points, and tended to be higher for other debtors. The year-end quotations of the national government bonds offer more information about the declining trends. The 1927 loan was quoted at only 31%, when a year before it had been quoted at 67 1/8%; and the 1928 loan was quoted at 30 1/4% compared with 68 1/2% a year earlier.[74]

1931 was the year when Colombia imposed exchange controls without abandoning the gold parities (September 24), and adopted the first measures according to which external debt service transfers would be regulated by the Control Board (October 31). These episodes alone could have adversely affected investors expectations and driven down bond prices. But 1931 was also a year of major crises of the international monetary regime. Severe banking crises in Austria and Germany led to the introduction of exchange control in these countries. Britain officially suspended the gold standard (September 21), an event which signalled the end of the international gold-exchange standard. A wave of suspensions of convertibility in Europe and other continents followed suit.[75] Finally, 1931 was also the year in which default on external debts arose and rapidly spread in the South American region. Bolivia went into

default early in the year (January), and in chronological order was followed by Peru (April), Chile (August) and Brazil (October).[76] The crisis of an international monetary regime which had been adopted as a symbol of financial stability, and a deteriorating neighborhood in South America could not favour any optimism on the investors' side.

By the end of 1932 all departments and municipalities had gone into default on sinking fund and interests. Mortgage banks had also defaulted on sinking fund, but interests on the debt of the Agricultural Mortgage Bank were still being punctually paid. The national government had actually defaulted on all but one of the sterling loans, but was paying full interests on all those loans; as for the dollar loans, sinking fund and interests had been fully paid by the national government. As a result of this process of default, the highest prices of departmental and municipal bonds collapsed to less than 20% in most cases, and the highest prices of the government guaranteed bonds of the Agricultural Mortgage Bank fell to around 40%. But also the fully paid national government bonds saw their highest quotations plummeting from 78% to 40%. As a matter of fact, the year-end quotations of the 1927 and 1928 loans were only 28 7/8% and 29% respectively.[77]

A sort of price recovery was observed in 1933. The dollar debt of the national government, some departments -particularly Cundinamarca and Antioquia-, some municipalities -Bogota, Cali and Medellin-, and some loans to the Agricultural Mortgage Bank, reached higher although still very depressed prices. As explained before, regarding the sterling debt, acquisitions of bonds by some government entities and banks in the open market could have caused that positive reaction of prices. This was a temporary increase, though, since the rest of the decade was dominated by very low quotations. The negotiation of permanent debt settlements for the dollar debt of the national government and of the Agricultural Mortgage Bank during the early 1940s induced the continuous recovery of the quotations, as seen in the last columns of Table 51.

What can be said about the evolution of the international prices of the Colombian debt regarding outstanding Latin American debtors? A general view can be drawn by recalling the experiences of Argentina, Brazil, Chile, Cuba and Mexico. These countries offer a variety of contrasting experiences considering the trajectory of bond prices, which were largely influenced by factors of international politics. In this context, the Colombian record could be seen as a middle-of-the-road experience, amidst the international tensions and internal political turmoil which affected other regions.

Consider first the extreme case of Mexico which did not share in the huge Latin American borrowing of the late 1920s. Instead, the country started the decade renegotiating its debt in 1922 with a Committee of International Bankers on Mexico which represented bondholders from United States and Europe. After a short resumption of payments the debt service was suspended (1924), and a new agreement formalized (1925). Towards the end of the decade payments were suspended again (1927), and another agreement with the bankers in 1930 did not receive support in Congress. Mexico then started a decade and a half of complete default during which the average quotations of its debt oscillated between 4% and 8% of the face value.[78]

The Cuban example illustrates not only the opposite evolution of bond prices but also a contrast of relationship between national governments and international financiers. While in the Mexican case default came as a reaction against prerevolutionary debts, and a long process of negotiations with bankers was accompanied by strong nationalistic feelings, Cuba had been the target of different forms of U.S. intervention.[79] In the early 1920s, political and financial reforms were undertaken under the U.S. influence. The main loan contracted during the 1920s (5 1/2% loan of 1923 for US$50 million) involved an early act of financial conditionality. Before floating the loan, U.S. bankers and officials required from the Cuban administration the enforcement of financial reforms. By the end of the decade, there were not explicit forms of U.S. military or political intervention in the island, but the American economic interests were huge and well cemented, representing the largest U.S. foreign

investments after Canada and Germany. With those precedents and economic context, investors could confidently expect the continuity of very high quotations for Cuban loans, although temporary suspensions affected those loans in the mid-1930s (During 1930-45 the average high quotations reached 100% and the average low quotations 87% of the face value respectively).[80]

In Chile, the sharp fall of terms of trade and exports' volume between 1929 and 1932 led to the steepest decline in the purchasing power of exports -85% according to Table 32- experienced by a country in Latin America during the great depression. In a experience similar to that of Colombia, Chile expressed reluctancy to both abandon the gold standard and suspend debt service. However, authorities adopted both measures in July 1931, as temporary devices to avoid the exhaustion of international reserves; but as these measures proved insufficient to stop the drain of foreign exchange, the gold standard was definitely abandoned in April 1932.[81] All these decisions were adopted in a context of political turmoil and interim governments. Default on loans to Chile -national, municipal and corporate- occurred on interest and sinking fund between August 1931 and March 1932. In the case of the major national loan floated during the U.S. lending boom (6% loan of 1928 for US$45.9 million), the lowest bond quotations collapsed since 1931 (from 70% to 7%), and the highest ones since 1932 (from 87% to 15% of the face value). These depressed levels remained through the decade and continued well into the 1940s. An unilateral plan for the restablishment of debt service was carried out by the government since January 1935; accordingly some specific revenues were designated to be applied to service the debt, half as amortization payments and half as interests. However, a definitive debt settlement with creditors was not negotiated until 1948.[82]

In Brazil, a series of negotiations with foreign creditors took place since the suspension of payments in September 1931, until a definitive agreement was reached in 1943. As Brazil was the major Latin American debtor, with debts amounting to some US$1200 million in 1930, and as about two-thirds of those debts were in British hands, British bankers and

advisers played a dominant role particularly in early negotiations. Since the first negotiation in late 1931 worked to the advantage of European investors, their bonds were remunerated with continuous high prices while the highest quotations on U.S. bonds collapsed in 1932 (the prices of the 6 1/2% loan of 1927 for US$41.5 million fell from 70% to 26% of the face value).[83] A new arrangement was agreed in 1934 by which debt service would continue on the basis of the Brazilian ability to pay and a discrimination of loans.[84] In 1937 the world crisis of coffee prices weakened the country's ability to pay, on which basis debt was being served, and authorities decided to suspend debt repayments. This time new arrangements for the regularization of the debt service did not follow swiftly as in 1931, and on the contrary, some creditors reacted angrily.[85] Bond prices fell to the lowest levels experienced during the decade (to an average of 20% for the highest quotations and 10.8% for the lowest ones of the 6 1/2% loan of 1927 during the 1939-41 period), and a sustained recovery was possible only after a definitive settlement was reached in late 1943.

Argentina was the only major Latin American debtor who maintained full debt service payments during the 1930s, although some provinces and municipalities incurred in payments' interruptions which were promptly readjusted. As in the Brazilian case, more than a half of the Argentinian debt was in British hands; but while Brazil had an import surplus with Great Britain, Argentina exhibited an export surplus. Being Britain the Argentina's most important export market, the bargaining power of the British had implications for the continuity of external debt payments.[86] These "implications" were officially recorded in the Roca-Runciman Treaty of 1933 according to which "the United Kingdom. . . will not impose any restriction on the imports of chilled beef into the United Kngdom from Argentina...below the quantity imported in...1932,...[In exchange for which] there shall be available, for the purpose of meeting applications for current remittances from Argentina to the United Kingdom, the full amount of sterling exchange arising from the sale of Argentine products in the United Kingdom..."[87]

The Treaty helped reanimate the expectations of investors about the quality of Argentinian bonds. The highest quotations of bonds (consider the 6% loan of 1927 for US$ 40 million) which nearly reached 100% in 1930 fell to 68% in 1932, in spite of full payment of the external debt service. After the Treaty, a consistent recovery of expectations led the highest prices to more than a 100%, and even the lowest quotations reached levels close to 100%. In 1936 Argentina transformed about a half of her national dollar debt into internal debt, while the other half was converted into new loans of longer maturity periods and lower interest rates. This was the first step before all outstanding national dollar bonds were called for redemption during 1946. By the end of 1949 all publicly offered dollar bonds had been redeemed and only a small amount of sterling debt was still outstanding.[88]

These individual cases show that within the common framework of the world recession the debt service issue and the market price of country debts depended not only on financial factors but also on international political considerations. Colombia does not seem to have lived through exceptional situations of external pressure. In some examples, such as that of Argentina, the depression of bond prices in the early 1930s was reversed after the implementation of a bilateral trade agreement which explicitly enforced the continuity of the debt service. There were other political influences, though. An important political strategy of the time was the Good Neigbour Policy implemented by the Roosevelt administration which added up to the multilateral trade relationships sponsored by U.S. officials. The course of defaults and further attempts of normalization of debt service in various Latin American countries were influenced by that overall political strategy. In the Colombian case, that international strategy played an explicit role, as our further discussions in Section III will reveal.

4. The creditors' reaction to Colombia's default

Who were the ultimate creditors? Who represented them and what was the authority of representatives? This last subsection surveys the initial reactions of institutions which later

would become the negotiators of debt settlements on behalf of U.S. and British investors (Section III below).

External debt bonds were widely distributed between relatively small ultimate investors.[89] The Council of Foreign Bondholders (CFB) represented the interests of British investors, and a similar function was performed by the Foreign Bondholders Protective Council (FBPC) in the U.S. since 1933. Before the creation of the FBPC some independent committees were founded to negotiate with each foreign country. In Britain, the government fully accepted and backed the authority of the CFB to represent the interests of bondholders. In early 1938 the Prime Minister reiterated the role of the CFB and added up a final sentence related to the possibility of government intervention if no acceptable agreements were achieved with the mediation of the CFB. Although the statement was made amidst acrimonious reactions after the Brazilian default in 1937, it made explicit that government intervention could not be ruled out:

"...The government recognize the Council of the Corporation of Foreign Bondholders as the body entrusted by Parliament with the duty of representing the interests of the Bondholders in all matters arising out of defaults or threatened defaults by foreign governments, states or municipalities... In the case of default, or threatened default, H.M. government expect the foreign government or authority concerned to enter into negotiations with the Council. H.M. government always follow such negotiations very closely and give to the Council their fullest support. Where no acceptable agreement is reached they are always prepared to consider what further steps can usefully be taken".[90]

In the United States the FBPC was formed upon request of the Secretary of State. The protection of U.S. investors in foreign bonds was considered of "such public significance as to make its proper handling a public service". However, it was made clear that it was for the private sector to get satisfactory debt settlements: "The traditional policy of the American government has been that such loan and investment transactions were primarily private actions, to be handled by the parties directly concerned. The government realizes a duty, within the proper limits of international law and international amity, to defend American interests abroad. However, it would not be wise for the government to undertake directly the settlement of private debt situations".[91]

Official reactions of creditors to the gradual process of Colombia's formal default were given by the councils of these two institutions, or less frequently, by ad-hoc committees created in the United States. In 1932 the CFB offered an example of mild reaction to the government's announcement (February 12) that it had suspended sinking fund payments. In a laconic statement published in its annual report the CFB expressed: "The government announced in February 1932 that it had been obliged to suspend the sinking funds on its external loans. The Council are glad to be able to report, however, that the interest service has been maintained during 1932".[92] The CFB felt that British bondholders had accepted the reasons given by the government to halt sinking fund payments. Having been asked whether the Corporation "had done or intends to do any claim to the government concerning that failure [the suspension of sinking fund payments]" the CFB answered: "We have received no representations from any bondholders in this matter and as Colombia has continued to pay regularly the interest due on the loans in question, we presume ... they are satisfied with the explanation published by the Colombian government on the 12th February 1932".[93]

New and mixed reactions were heard after the government announcements of meeting the coupons of the national debt and of the Agricultural Mortgage Bank (AMB), two-thirds in scrip during 1933, and in scrip only during 1934. One of the U.S. independent committees complained that scrip plans were attempts "to foist on the American holders of Colombian dollar bonds an unsatisfactory substitute for the interest payments which they are entitled to receive".[94] Some journalists expressed their dissatisfaction with the scrip plan for 1934 and interpreted it as against the reputation of Colombia in the financial circles of the City. A note in The Times discussed the Colombian decision in terms of the recent experience of the country as international debtor:

"Colombia's decision to meet her loan coupons during 1934 in scrip only is not a surprise...but disappointing. Ever since 1905, when a settlement was reached on the old [British] debts of the Republic, Colombia has been building up a name as a good debtor by prompt interest payments and regular amortization. In 1931 she was compelled to introduce a rigorous exchange control which was unable to provide exchange for provincial and municipal debt service. By 1933, the special imports of supplies and munitions required by

the border conflict with Peru created new strains on the availability of foreign exchange. By the end of June [1933]... Colombia announced that she would be able to pay one-third of her interest in cash, and two-thirds in scrip. Allowing for the difficulties to be faced, that is not a bad record. The 1934 default, however, must be considered a blot on Colombia's credit...it would seem that Colombia might, with an effort, have maintained the very small payments required for one-third of her external debt...".[95]

This is, again, a mild reaction to an event which was not "a surprise" to financial observers who had understood the foreign exchange difficulties faced by Colombia since 1930. Additional complaints were put forward by U.S. committees related to the obligations of departments and municipalities; in this respect the issue was not only the default on those obligations, but the discrimination resulting from the fact that national debts were being at least partially served while no foreign exchange was being set aside for the account of the departmental and municipal bondholders.[96] It was also pointed out that all dollar bonds of departments and municipalities were secured by assets and revenues, and therefore these loans had prior rights over other nonsecured government obligations.[97] From the U.S. creditors' perspective the question of the external debt service of departments and municipalities was crucial since, as seen before, they represented 57% of the dollar public and publicly guaranteed debt.

The central reason given by the Colombian government to suspend the amortization payments on the national debt in 1933 was the compelling expenses demanded by the border conflict with Peru. Although actual hostilities ceased in May 1933, the treaty of peace was signed only a year later and became effective in September 1935. At the end of this last year the Institute of International Finance, an institution conducted by the Investment Bankers Association of America in cooperation with New York University issued a bulletin concerning Colombia. The focus of attention of the bulletin was the fact that the government had so far failed to take effective steps to correct the state of default on its outstanding debt.[98]

Could the government have continued fulfilling its obligations during the war and in the interim period until the treaty of peace was ratified? Was the government in the position of

resuming the normal service of its external debt? Table 52 based on information published by the Exchange Control Board was a simple but crucial reference for the Institute's conclusions.

TABLE 52

COLOMBIA
FOREIGN EXCHANGE INCOME AND DISBURSEMENTS
1932-1935

(US$ Millions)

	March 7-Dec 31, 1932	12 months 1933	12 months 1934	1st 8 months 1935	1st 8 months 1934
INCOME	53.1	56.2	76.5	39.6	53.1
DISBURSEMENTS	53.6	63.5	77.9	42.1	52.9
IMPORTS	29.9	39.1	50.7	33.7	34.3
RESIDENTS ABROAD	5.5	3.7	2.3	1.3	1.6
NATIONAL GOVERNMENT	9.8	11.2	21.3	4.8	14.4
EXTERNAL DEBT PAYMENTS	4.3	5.7	...	...	...
OTHERS	4.2	3.8	3.7	2.3	2.6

SOURCES.
Institute of International Finance (1935)

As seen, the national government appeared to be a large buyer of exchange, and the chief cause of the exchange shortage during the period. Although the destination of the exchange acquired by the government is not revealed, according to the Institute it was "unofficially reported that the major portion of it is spent abroad for armaments". The hypothesis of the government becoming an important buyer of foreign exchange "destined" to defense expenditures is consistent with our discussion of Table 45 above; accordingly, defense expenditures became the major cause of government expenditures in 1933-34 before losing importance since 1935.

By 1933 the service of total external debt of Colombia amounted to some US$19 million per annum (Table 49 above). Estimates by the Institute were of the same order of magnitude. By combining the information in Table 52 and the figures about the external debt service, the answers of the Institute to the previous two questions are immediately obtained:

"It is obvious that, under present conditions, total service charges could not be met, but in view of the fact that the treaty of peace between Colombia and Peru finally became effective on September 27, 1935, it is hoped that the foreign-exchange requirements of the government for armaments will decrease and that payments, at least in part, on the external debt service can be resumed".[99]

The Institute appears to be recognizing the reasons offered by the Colombian government to suspend external debt payments, but also finds that by the end of 1935 the government would seem to be well capable of restarting service payments at least in part on the external debt.

D. Looking back and ahead

In Section I of this part we discussed the breakdown of the U.S. lending boom of the 1920s. We also looked into the adverse shock of the international business cycle on the periphery, particularly on the four main South American debtors, Argentina, Brazil, Chile and Colombia.

In this section (Section II) we examined how domestic asset-markets in the Colombian economy were affected by specific external shocks during the great depression. It was shown how authorities stuck to the orthodoxy of the gold standard until Britain and later the United States went off gold, and the international reserves of the country were nearly depleted. Authorities imposed exchange controls and negotiated "temporary" and partial suspensions of the external debt service to avoid a total exhaustion of the Bank of the Republic's foreign assets. To combat against the adverse effects of the deflation on the internal credit structure and prevent the collapse of the financial system, authorities expanded the internal public debt. It was not a typical program of public works financed with internal public debt,

but a strategy to rescue the financial system and crucial economic sectors affected by the worldwide recession. A further expansion of the internal public debt was required to finance a war with a neighbouring country.

In the next section we follow the process through which the debt contracts signed with British and U.S. investors, and which were affected by default during the great depression, were renegotiated. The renegotiation was a long (15 years) and complex process which involved a variety of forms (such as debt buybacks, reduction of interest rates and rescheduling), and a diversity of strategies adopted by debtors and creditors. Overall, renegotiations were the mechanism by which the long-term relationship between foreign creditors and Colombian debtors described in Section I of this part was restablished.

SECTION II

NOTES

1. The concept of Export Revenues in Column (2) corresponds to Exports FOB in column (1) but excluding 80% of oil exports, 60% of gold and platinum exports, and 50% of banana exports. These exclusions actually became revenues of foreign companies which exploited those economic activities. Ocampo (1988) p.212.

2. In August 1926 authorities adopted a narrow band for exchange rate oscillations between C$1.0150 and C$1.0275 per dollar. The exchange rate actually oscillated within this band between August 1926 and October 1928. The upper limit of C$1.0275 was reached in November 1928 as the first impacts of the U.S. cessation of lending were felt. This level subsisted until April 1929 when under market pressure the exchange rate achieved the gold export point of C$1.0350 per dollar. Informe del Gerente a la Junta Directiva del Banco de la Republica, hereinafter IGBR, annual reports for 1927 and 1929.

3. By adopting (January 1932) the new gold export point -C$1.050 per dollar- as the exchange rate for its operations, the central bank expected to offer some stimulus to exporters without deviating from the metallic parities. IGBR, annual report for 1932.

4. Under the differentiated system the exchange rate for government transactions was the gold export point, C$1.050 per dollar, while exporters were assigned a rate of C$1.130 and importers a rate of C$1.160 per dollar, respectively.

5. On September 5 1933, the exchange rate for exporters was changed from C$1.130 to C$1.230, and that for importers from C$1.160 to C$1.260, namely, an 8% devaluation. Further, during the managed floating arrangement -September 1933 through June 1936- the exchange rate depreciated by 38%. Finally, the exchange rate was fixed at C$1.75 per dollar in June 1936. IGBR, annual reports, 1934 through 1936.

6. Between 1923 and 1927 the stock of internal public debt declined from C$21.1 million to C$9.5 million. 63% of this substantial nominal reduction was explained by the withdrawal from circulation of Treasury Certificates (C$2.6 million) and Treasury Bonds (C$4.7 million).

7. Department of Overseas Trade. Special register service of information. 23-3-23. Council of Foreign Bondholders (London), hereinafter CFB. Extracts Vol II.

8. Regarding investments of the Bank in government bonds, the only episode to note is the acquisition of Treasury Certificates during 1923 as part of the process of monetary unification.

9. Revista del Banco de la Republica, Editorial Page, May 1928.

10. The Law 12 of 1928 authorized the government to exchange the 10% bonds in circulation for new 8% bonds, or alternatively, to repurchase those bonds at their par value. Diario Oficial No 20830 of 1928. Later, the Law 20 of the same year authorized the national government to pay its debts to departmental governments by issuing 8% bonds. The corresponding issue reached the amount of C$6.5 million shown in Table 41. By 1930 the comptroller general decided not to approve new issues of the 8% bonds. Perez (1990), Part II, p.83.

11. Perez (1990), Part II, p.7. As seen in Table 41, I.D., the fiscal subsidy of railways became increasingly important between 1928 and 1931. While in the former date railway bonds represented only 2% of total bonds in circulation, in the latter they represented 24%.

12. Perez (1990) Part II, p.7.

13. Although the League of Nations Gold Delegation of 1930 found that actual gold cover ratios of some 40% exceeded the minimum one-third cover, it was perceived that as increasing foreign exchange reserves were accumulated by central banks, a gold shortfall could arise in future. Eichengreen (1992), pp.198-203.

14. Revista del Banco de la Republica, April 1931, pp.124-127

15. Ibid.

16. Memoria de Hacienda, 1932, p.23.

17. Revista del Banco de la Republica, October 1931, p.347.

18. Ibid.

19. IGBR (1932), p.13.

20. Eichengreen (1992), p.264.

21. Rediscounts in the central bank are not included in these calculations.

22. In February 1932, the Colombian Bonds of Internal Debt were quoted at a weighted average value of 53% of the par value, while the mortgage bonds were quoted at just 50% of their par value. Revista del Banco de la Republica, March 1932.

23. Revista del Banco de la Republica. Editorial Page, February 1932.

24. Revista del Banco de la Republica. August 1932, pp.262-263.

25. Informe del Superintendente Bancario al Ministro de Hacienda, 1932, p.12.

26. Memoria de Hacienda, 1932, p.65.

27. Decree 280 of 1932. Diario Oficial No 21918, February 1932. The 20% discount on external bonds was intended as a premium in favour of the Treasury.

28. As seen in Table 43 the stock of mortgage bonds sold abroad declined from C$54.9 million in 1931 to C$40.7 million in 1933. In dollars, the same stock declined from US$52.8 million in 1931 to US25.9 million in 1933. The difference is explained by the depreciation of the Colombian peso which passed from C$1.035 per dollar in December 1931 (the average exchange rate for the year was the same) to C$1.57 per dollar in December 1933 (the average for the year was C$1.24 per dollar).

29. The AMB took over the mortgage assets of the private banks and assumed the liability for their external bonds to the extent that their service could be met out of the assets taken over. Any differences between the external bonds and assets transferred to the AMB were paid at 50% of their nominal value in 6% internal bonds of the AMB. The Stock Exchange Yearbook (London), 1971 p.305.

30. Under provisions of the Decree No 711 of 1932, repatriations of bonds of the 1927 and 1928 loans to the national government amounted to US$6 million. FBPC (1944) p.321. The issue of C$2.6 million 7% internal bonds would have been exchanged for some US$2.4

million during 1932 (Official exchange rate by then at C$1.05 per dollar). The remaining US$3.6 million would have been repatriated during 1933.

31. C$10.9 million old internal debt bonds (C$5.5 million 10% bonds and C$5.4 million 8% bonds according to Table 41) were exchanged for new 7% bonds. Additionally, US$3.6 million (or C$3.9 million at an official rate of C$1.09 per dollar) external bonds were exchanged for 7% internal bonds.

32. Bankers agreed to the extension of the moratorium of private debts' redemption in exchange for the payment of interests and a capital payment of at least 5%. To stimulate these last payments the government resigned to the 20% premium so far obtained from the application of external bonds to the payment of private credits to the banks. To compensate for the fiscal cost of this government's decision, banks accepted that from August 1933 internal public debt bonds received in payment of private debts would bear a 6% interest.

33. Triffin, (1944), Tabla VIIa.

34. The ratio of excessive reserves to total deposits reached the value of 14% which exactly doubled the average for the five preceding years. Informe del Superintendente Bancario. Period 1927 through 1933.

35. Triffin (1944), Tabla IV.

36. Revista del Banco de la Republica, March 1932, p.79-80.

37. Revista del Banco de la Republica, Editorial Page, March 1932.

38. Informe del Gerente a la Junta Directiva del Banco de la Republica, 1932, p.29.

39. The issue of the new bond was authorized by the Decree 422 of 1932, which also established that saving banks (such as the Caja Colombiana de Ahorros) should invest part of their reserves on the new bonds. According to the Memoria de Hacienda (1940) p.130, by mid-1940 the Bank of the Republic had in its hands C$2.8 million of the new bonds, equivalent to 85% of the amount in circulation.

40. Eichengreen (1992) p.288

41. Eichengreen and Sachs (1990) p.218

42. Informe Financiero del Contralor. 1932 through 1935.

43. Memoria de Hacienda, 1933, p.23

44. The issue of the bonds and the new tax were authorized by the Law 12 of 1932. Memoria de Hacienda, 1933, p.16-20.

45. The amortization of the Patriotic Defense Loan was practically completed in 1940, and only a negligible balance was registered in the official accountancy during the 1940s. The Military Quota Loan of 1933 was amortized in a different way. It was authorized that tax payers who wanted to pay their contributions in advance could do so by using bonds of the Patriotic Defense Loan when making their payments. As the Bank received the bonds, the loan was gradually transformed into an investment of the Bank in government bonds. Memoria de Hacienda, 1933, pp.20-21.

46. As previously discussed, the Salt Mines Concession Loan was to be liquidated out of the income derived by the Bank from the operation of some salt properties of the government. A new arrangement was agreed for the years 1935 and 1936: incomes derived from the salt properties during 1935 would be entirely treated as government revenues, and incomes

derived during 1936 would be divided by halves between the government and the bank. The new arrangements were legalized by the Law 7 of 1935. Diario Oficial No 22809, February 1935.

47. The profits obtained from the gold holdings revaluation were registered in a Special Exchange Account on the Bank balancesheet since 1935. The legal redefinition of the gold content of the Peso took place with the enactment of Law 167 of 1938. Memoria de Hacienda, 1939 p.101.

48. From a profit of some C$17.3 million, C$8 million were applied to amortize outstanding balances of national defence loans as follows: C$4.8 million of the Decree No 2028 of 1933 loan; C$1.6 million of the Decree No 578 of 1934 loan; and C$1.6 million of the 1934 3% Promissory Notes. The first and third credits were fully amortized, and a balance of C$0.94 million of the Decree No 578 of 1934 loan was left to be amortized later in 1941. The remaining C$ 9.3 million were distributed as follows: C$5 million were left to the discretion of the Treasury, C$3 million were destined to the formation of a Stabilization Fund which had been authorized since 1935 (Law 7) for the stabilization of market prices of government bonds, and C$1.3 million were deposited in the Special Exchange Account.

49. Decree No 1951 of 1931 (October). Memoria de Hacienda, 1932, p.28

50. Decree No 186 of 1932 (February). Memoria de Hacienda, 1932.

51. Memoria de Hacienda, 1934, pp.71-81.

52. Decree No 643 of 1933 (March). This was the same measure mentioned above which suspended the amortization payments on part of the internal debt, namely, on the Colombian bonds of internal debt discriminated in Table 41, I.A.

53. Coupons falling due between April 1 1933, and January 1 1934, on both dollar and sterling loans would be paid on the basis of 1/3 in cash and 2/3 in deferred interest certificates, and the interest service up to January 1 1935 would be effected by the 4% funding certificates.

54. Medellin, the main industrial center of the country, and responsible for 55% of the Municipal debt, defaulted the same day on sinking fund and interests (December 31, 1931).

55. By the end of 1933 the outstanding debt of the Agricultural Mortgage Bank was US$15.1 million, 68% of it being represented by dollar loans. At the contractual rate of 6.5%, the annual interest service was about US$1 million.

56. As seen in Section I the last significant loan obtained by the country was negotiated with a syndicate of banks headed by the National City Bank of New York and the First National Bank of Boston, in 1931. After delayed instalments, the total amount obtained from the bankers arrived to US$16.7 million, a sum inferior to the annual service of the external debt, which as seen in the text exceeded the US$19 million.

57. Revista del Banco de la Republica, Editorial Page, August, 1931.

58. The Corporation of Foreign Bondholders, CFB, was founded in 1868 and reconstituted in 1898 by Special Act of Parliament. Its principal object was the protection of the interests of the holders of foreign Government, State or Municipal securities. CFB, Annual Report, 1938, p.6. This institution was finally liquidated in 1989.

59. Correspondence, Letter, 17-9-31, from officials of the Bank for International Settlements, Basel, to the Secretary of the CFB. CFB, File No 1. Ibid. Letter, 23-9-31.

60. Ibid. Letter, 24-9-31.

61. It has been recently mentioned that after the 1930-31 loan, the government hoped that new credits would be possible by the direct intervention of E. W. Kemmerer to convince the U.S. bankers. Drake (1989), p.67

62. Drake (1989), p.164

63. The monopoly was cancelled in 1931 and eventually redeemed in 1935 by a cash payment of 22%. CFB, Annual Report, 1938, p.220.

64.The Times, 16-2-31. The News, 14-7-31. CFB, Colombia, Extracts Vol II (hereinafter, Extracts).

65. Law 99 of 1931, Article 4. Foreign Bondholders Protective Council, FBPC, Annual Report, 1941 through 1944, p.316

66. FBPC, Annual Report, 1945, p.57.

67. Lleras Restrepo (1983), Tomo 1, p.36.

68. The News, 23-5-32. Extracts Vol II.

69. The Times, 10-4-33. Extracts Vol II.

70. Financial Times, 4-3-35. Extracts Vol II.

71. The Consolidated External Debt of 1896 is not considered in the following descriptions. Its final redemption took place in July 1931.

72. The main source of information is the annual issue of the Stock Exchange Yearbook (London).

73. Price ranges were taken from FBPC (1936).

74. Stock Exchange Yearbook (1932).

75. By the end of 1931 the Scandinavian countries, Austria and Portugal in Europe; Bolivia and El Salvador in Latin America; Egypt in Africa; and India and Japan in Asia appeared between the countries which left the gold standard after the British departure from gold.

76. FBPC (1936).

77. The year-end quotations were taken from Stock Exchange Yearbook (1933).

78. Aggarwal (1989), p.146-48.

79. "The United States maintained a military government in Cuba from 1898 to 1902; it imposed an American civil administration, with strong military support, from 1906 to 1909; it landed marines in 1912, and again in 1917; and it sent a civil mission in 1921, under General Crowder, to devise internal political and financial reforms." Angell (1933) p.14.

80. Angell (1933) p.18. Marichal (1989) p.191.

81. Drake (1989) pp.115-120.

82. FBPC (1949) pp.103-108.

83. Following a proposal by the British bankers Rothschilds in 1931, it was agreed to service in full the existing funding loans and other credits obtained before 1914, while sinking fund payments on more recent credits were suspended and the corresponding interests were to be paid in scrip. Since funding loans had been exclusively financed by British and French investors, the accord worked against the U.S. investors who saw the highest quotations of their bonds to collapse in 1932 while European funding loans received high prices.

84. The arrangement was known as the Aranha Plan. Bonds were discriminated into seven grades. Funding loans and the 7% Coffee Realization Loan of 1930 were to receive full interest, some Federal, State and Municipal loans partial interest, and some other loans to states and municipalities, no interest. The original version of the Plan was discussed with representatives of the British bondholders, and further changes beneficial to the holders of dollar bonds were made after discussions with representatives of the U.S. investors. The Plan was thought to last 4 years, but default under the Plan occurred on some issues before the expected date of termination. FBPC (1944), pp.141-42.

85. The Economist (13-11-37) expressed: "The [Brazilian] default ranks among the most cynical that the London market remembers". Quoted by Abreu (1978), p.119.

86. Diaz-Alejandro (1983), pp.25-31.

87. Articles I and II, Roca-Runciman Treaty (1933). Quoted by Jorgensen and Sachs (1988, p.43.

88. FBPC (1944, 1949)

89. The average holding of each issue was estimated to be around US$3000. FBPC (1936).

90. Statement by the prime minister (Mr. Chamberlain) in the House of Commons on the 14th February, 1938. CFB(1938), p.9.

91. Announcement to the press by the White House on October 20, 1933. FBPC (1944) p.XIV.

92. CFB (1932).

93. Correspondence. Letter to the Secretary of the CFB from Camilo Torres Elicechea. Paris, 2-5-32. Answer by the Secretary of the CFB, D. Reid. London, 11-5-32. CFB, File No 1.

94. Press release by the Committee for the Republic of Colombia dollar bonds headed by Richard Washburn Child. The Times, 8-3-34. Extracts, Vol II.

95. The Times, 27-2-34. Extracts, Vol II.

96. Press release by Lawrence Hoover, secretary of the Independent Bondholders Committee for Colombia. The Times, 5-10-34. Extracts, Vol II.

97. Comment to the Press by Senator Robert L. Owen head of the Independent Bondholders Committee for Colombian departments and municipalities. The New York Times, 15-4-35. Extracts, Vol II.

98. The Institute was founded in the interest of the U.S. foreign investment. One of its functions was to prepare regular bulletins analyzing the credit position of specific countries.

99. Institute of International Finance, New York, Bulletin No 82, November 15, 1935, p.11.

SECTION III

The renegotiation of the Colombian external debt, 1934-1949.

INTRODUCTION

In this section we discuss the process of renegotiation of the Colombian external debt which took place during the period 1934-49. The matter of renegotiation were the debt contracts signed with British investors since the beginning of the century, and with U.S. investors since 1925, and which went into default between 1931 and 1933.

This section is the last one of our historical enquiry and forms a unit with the first two sections. Already in Section I we looked into early experiences in which the access of Latin American economies to foreign financing was followed by default and renegotiations. Also in Section I we described the first great lending boom of the 20th century; in particular, we narrated the experience of Colombia during the boom-and-bust of U.S. loans between 1925 and 1928. In Section II we addressed the topics of gradual default of Colombia's external debt, and the crucial role of the internal public debt to cushion the shocks associated with the great depression. In this section we concentrate on the agreements between creditors and Colombian debtors by which external debt repayments were normalized.

These reflections suggest the existence of a long-term relationship between creditors (British and U.S. private investors) and Colombian debtors (public and private sector). Renegotiations became an integral part of such a relationship. Since formal debt contracts do not allow for

contingencies -such as a collapse of TOT- which exonerate debtors from making debt repayments, renegotiations are the device through which the contractual relationship is adjusted to a new set of circumstances. Renegotiations have been interpreted as a form of risk-sharing arrangements between creditors and debtors (Grossman and Van Huyck, 1988), or as part of an implicit state-contingent contracting (Kletzer, 1994).

Renegotiations during the 1934-49 period had a bilateral character between British and Colombian negotiators, and also between U.S. and Colombian negotiators. However, the renegotiating process was governed by complex relationships between parties. At times, the British and U.S. creditors appeared to be formulating cooperative strategies, at times the British recognized the leading position of U.S. negotiators ("throwing in their lot with the Americans"), and at times both creditors conducted independent negotiations. Further, governments intervention proved crucial in the achievement of agreements, particularly in the U.S. case where in some negotiations creditors' representatives were supplanted by government officials. In these events, settlements materialized once ultimate investors in Colombian bonds accepted the offers of the debtors despite the disapproval of creditors' representatives.

On the debtors side, the prevailing line of negotiation was that some risks should be borne by creditors, and therefore the extraordinarily adverse realization of those risks during the great depression should also be shared by investors. Since there were different kinds of debtors (national, regional and local governments, and also banks), offers of settlement were also different. An outstanding negotiating strategy of the national government aimed to get final settlements accompanied by fresh loans; the strategy coincided with international extensions of the New Deal and succeeded during the recontracting of the dollar debt of the national government, but not in the renegotiation of the sterling debt due to lending restrictions in the London market during World War II.

While the gradual process of renegotiation could reach the state of settlements, secondary markets in both the United States and Britain provided an important risk sharing mechanism through the repatriation of depreciated foreign bonds. It was a worldwide experience according to the U.S. Foreign Bondholders Protective Council, which by the end of the 1930s stated that most defaulters had been involved in repatriation of depreciated bonds, and that such operations amounted to one-fourth of the outstanding debt stock when default was declared. Colombian debtors were actively involved in buybacks of their bonds between 1932 and 1937 when negotiators started discussing concrete proposals of agreement; some of them repatriated one-half of their external debt through those buybacks. Recent theoretical literature on external debt renegotiations has questioned the advantage of repatriations from the debtors perspective, since it is argued, the raising effects of buybacks on the market quotations of the debt invalidate their potential attraction (Bulow and Rogoff, 1991). An extended characteristic of buybacks in the 1930s was their furtive nature, which could have prevented price increases. This secrecy seems to have been crucial for most buybacks in the Colombian case, since prices were about the same or less at the end of the 1930s when negotiators reached their first agreements.

The information discussed in this section heavily relies on private documentary evidence, minutes of lenders' committees, and correspondence files, most of them of British origin. Fortunately, since the position of creditors on both sides of the Atlantic was a matter of controversy, the British files contained documentary evidence of the strategies played by the U.S. negotiators. This section also provides new series of the Colombia's external debt for the period 1923-50. In some cases the reconstruction of the series started by tracing the experience of individual loans before obtaining more aggregate data.

We start this section by describing the international context of widespread default in which the recontracting process commenced as of 1934. The sequence of actual renegotiations is divided into three bargaining rounds. The first one began in 1934 and ended during the crisis of world coffee prices of 1937. Although no agreement was reached during the first round,

this period served to make explicit basic rules that creditors and debtors alike would follow through the renegotiating events. The second round covered the 1938-42 years. This period was fruitful in strategies and agreements, the main achievement having been the settlement of the external debt of the national government. The third round ran from 1944 to 1949 when the foreign debt of regional governments (departments and municipalities) was settled. Finally, the reader will find an appendix in which we explain how the new series for the Colombia's external debt were obtained. The main differences with previous series are based on the explicit accountancy of defaults, repatriations and settlements.

A. The international context

By the end of 1935, the worldwide propagation of external debt default had reached a crucial stage. The chain of Latin American defaults spread to East European countries -Hungary in January 1932, followed in quick sequence by Bulgaria and Greece in May, and by Yugoslavia in November-. The default process finally involved Germany, by far the major beneficiary of the U.S. lending boom of the 1920s. Regarding only the outstanding dollar denominated debt, a significant 38.5% was actually in default, and grouping according to regions the percentages of outstanding dollar debts in default were as follows: Latin America, 75.8%; Europe, 49.8%; Far East and Africa, 2.4%; and Canada, 3.8%.[1]

The international scene of external debts was made even worse by the default on World-War-I loans with the government of the United States. As seen above (Section I.C.1 of this part), these debts were funded in 1922, amounting to US$11.6 billion. The early 1930s witnessed postponements and concessions to the debtors: the Hoover moratorium of 1931 (June) which postponed during one year all payments on international debts; the postponement (December 1931) of amounts payable to the U.S. government during 1932, and their repayment over a ten year period; and the acceptance (May 1933) of silver payments from foreign governments. However, these concessions were followed by the controversial Johnson Act (April 1934) which prohibited "financial transactions with any foreign government in default

on its obligations to the United States".[2] Reactions in Europe to this legal decision emerged without delay. Great Britain (June 1934) unilaterally suspended future payments on the war debts, and France, Italy and Belgium followed suit. These four countries were responsible for 90% of the funded war debts of 15 European countries; by the end of 1936 all of them were in default, with the exception of Finland.[3]

In the view of the U.S. Securities and Exchange Commission, the default on war debts "has coloured the attitude of governments indebted to American citizens".[4] Default in the 1930s was accompanied and perhaps stimulated by what Henry Wallich writing in 1943 denominated a "change in debtor psychology".

"Latin American belief in the sanctity of contracts was undermined by the British default on the war debt, Germany's failure to make payments on the greater part of her international obligations, and the derogation of the gold clause in the United States...The question 'to pay or not to pay' thus tended to be reduced to a simple utility calculus: Did the advantages of maintaining a good credit record constitute an adequate reward for the sacrifice of continued payments?...Faced with this question, nearly all our South American debtors decided in favour of default, regardless of the relative size of their debt".[5]

In this context of widespread default countries like Colombia started the renegotiation of their external debt. It was a drawn out process commenced in 1934 and concluded late in 1949. However, neither was it a continuous process nor were all debts renegotiated at the same time. Definitive settlements for the national government debt and for the publicly guaranteed debt came earlier, during the first half of the 1940s; and settlements for regional governments (departments and municipalities) were predominantly achieved at the end of the 1940s. The whole process of intermittent negotiations and separate settlements can be chronologically divided in three bargaining rounds. The first round begins in 1934 and ends during the international coffee crisis of 1937. The second round encompasses the negotiations since 1938 until 1944 during which bond conversions were agreed for the national government and mortgage bank debts. Finally, the third round refers to the negotiation and final conversion of most of the external debts of departments and municipalities.

It is important to note that there was never a total suspension of payments on the external debt. The Belgian and French debts were fully amortized during the first round, in 1934 and 1935 respectively. Full interests were paid on the loan sold in 1931 to the syndicate of bankers headed by the National City Bank of New York.[6] The non-interest bearing deferred interest certificates of 1933 were redeemed in 1937, and the 4% funding certificates of 1934 were fully served until its final redemption in 1946. Other small loans contracted with Colombian subsidiaries of foreign companies were punctually served.[7]

B. First Round, 1934-1937

During this brief period, both Colombia and her creditors expressed their preferences about the outcome of possible negotiations. Colombia announced her willingness to pay according to capacity to pay. An important argument on this side was that the nominal debt contracts with fixed interest rates signed during the 1920s had become unenforceable during the 1930s, due to the global deflation of the time. Creditors defended the integrity of original contracts and to that end were inclined to negotiate temporary settlements while expecting to suscribe permanent agreements at the end of the world economic recession. In the meantime, a process of buybacks of foreign bonds at depreciated prices took place, bringing about a market solution in the absence of agreement between parties. In this subsection, we summarize common principles followed by negotiators, and also quarrelsome subjects such as repatriations and trade pressures. Towards the end, the reader will find the first concrete initiative of settlement of the national debt just before the end of the first round.

1. Early approaches and guiding principles.

Although the intention of starting negotiations had been repeated several times since 1932, contacts between the Colombian government and representatives of the creditors did not take place until the second half of 1934. Positions of both parties were clearly expressed at the outset, with the government protecting its independence and representatives of creditors

defending their own cause. In a communication to the [U.S.] Foreign Bondholders Protective Council (FBPC), the government stated that it would fulfill its external commitments within its financial capacity to pay and without having to impose unreasonable constraints on its economic programs.[8] The FBPC in its turn asked the government to reserve any decision related to what Colombia can or cannot pay without previous discussion with the council.[9] Colombian authorities found joint discussions with the FBPC to be favourable but stressed that they could not commit to what the council wanted because it would be restricting their own freedom, and also excluding the opinion of other creditors' representatives in the United States and Europe.[10]

Representatives of U.S. independent committees visited Colombia and later published statements about the "friendly spirit" of the government and its intention of entering "into negotiations for the settlement of its external debt".[11] An explicit reference to the government's attitude was included in a circular letter to holders of Colombian bonds: "This is believed to be the first instance in the history of defaulted foreign bonds in this country [the USA] where a foreign government has offered its facilities to representatives of the bondholders, and made available to them authoritative and official sources of data and information, to assist in determining the capacity of the country to resume payments to its external creditors"[12] Importantly, the same circular letter presented the position of the government to the bondholders and found it "entirely reasonable":

"The Colombian government has always maintained that Colombia would comply with all external obligations to the extent of the Republic's capacity to pay. The position is regarded by the Committees as an entirely reasonable one, and the cooperation extended by the government of Colombia to the Committees in order to determine for the bondholders the extent of such capacity is hence a most constructive development".[13]

A country's capacity to pay was a common issue in renegotiations and settlements during the 1930s and 1940s. It is important to note, however, that formal declarations of principle by creditors' representatives were not as generous as the previous quotation. The FBPC stated that the phrase capacity to pay did not have "any proper place whatsoever in a discussion

between a sovereign and his private foreign creditors" and that "whether a sovereign pays, or does not pay, depends in greatest part upon his will to pay". The Council did not recognize to sovereign debtors the right to invoke lack of capacity to pay unless they had fully exhausted their taxing powers; and that was not the case, the Council alleged, of the countries which defaulted in the 1930s.[14] These strong declarations would be eventually mitigated during actual renegotiations.

The committees did not endeavour to get immediate permanent settlements. It was considered that international economic conditions were unfavourable to make definitive agreements. In the Colombian case, for example, when the independent committees started the conversations mentioned above, financial circles in London recalled that the exchange situation in that country was still unsettled and therefore the government could not afford to deal with the external debt question.[15] Even as late as 1940 the FBPC found it undesirable both for debtors and creditors to try to make final arrangements, and therefore temporary agreements were preferred. In fact, 85% of the defaulted debts renegotiated by the FBPC during 1934-39 became temporary settlements.[16]

Some common principles were defended by the committees during negotiations. Regarding the capital value of debts, it should be paid in full according to the nominal contracts. Also any interest arrears should be fully paid. A more flexible attitude was shown regarding rates of interest or amortization quotas which could be "slightly" reduced according to economic circumstances either of the debtor country or of the world economy. On the other side, debtors insisted that the real value of contracts had become too high after the deflation of the 1930s, and that the world levels of interest rates were far below the levels of the 1920s when loans were made.

2. Contentious issues: Repatriation of defaulted bonds

The committees strongly rejected the practice of repatriation of bonds by countries actually in default. While defaulting countries claimed their inability to find either funds or foreign exchange to service their debts, the FBPC alleged that such countries, -"many and indeed most of them"- had found both funds and foreign exchange to buy up their bonds at very low prices "at which the bonds are selling due to their own wilful default". According to the Council, "thirteen countries in default had at the time of default approximately US$1,815,347,000 of dollar debt outstanding. These countries have in some 7 years repatriated approximately 25% of this debt, though all the time alleging they had not available funds or exchange to serve their bonds".[17]

Repatriations constituted a contentious issue in the Colombia's case. As seen in Section II.C.3, these repurchases took place at prices well below par. In some cases, contracts allowed debtors to make open market purchases of their own bonds with the aim of stabilizing market quotations. Additionally, committees representative of creditors found legitimate such repurchases even at prices substantially below par where bonds were being punctually served, but strongly condemned repurchases of defaulted securities. The Colombian case is illustrative of repurchases at low prices of both punctually served and defaulted bonds.

Colombia started repatriating bonds at prices below par at least since early 1932. Although the amortization service of the external debt was suspended in 1932 (February), it was effected for the obligations of the national government until 1933. During these two years the national government was repatriating external bonds after the expedition of the legislation which authorized the payment of domestic banking debts by means of external bonds. As seen in our previous discussion about internal debt and rescue of the financial system (Section II.B.2) the government exchanged the external bonds actually repatriated by bonds of the internal debt. The repatriation of bonds sold abroad by the national government during 1932-1933 was not negligible. Repurchases of dollar bonds amounted to U.S.$5,997,500 and those of sterling bonds added up to £57,617; the former represented 12% of the outstanding

external debt of the national government denominated in dollars, and the latter, 4% of that debt denominated in sterling. According to tables 50 and 51 above, the repatriation of sterling bonds was made at an average price of 45%, and that of dollar bonds at about 35%.[18]

The repatriation of dollar bonds by the national government was made while the debt was still fully served. Additionally, original contracts allowed the government to make open market purchases at prices below par. Therefore, from the standpoint of creditors those operations were genuine. As for the sterling debt, although some sinking funds were suspended in 1932, interest in most cases was fully paid until the second half of 1933. According to the Stock Exchange Yearbook (London) "since 30 June 1932 the government have acquired large blocks of these loans and have delivered them to the fiscal agents to be credited to the sinking fund".[19] Asked by some critics whether those operations were acceptable, the CFB replied: "The purchases of bonds abroad was part only of a general scheme designed, not primarily to affect the position as between Colombian borrowers and foreign lenders, but to meet a critical situation as between Colombian debtors and Colombian creditors".[20]

Repatriations covered not only national government bonds but also bonds of regional governments and mortgage banks. Although this topic is discussed in detail further in this section, some orders of magnitude can be illustrative at this point of the relevance of repatriations. Mortgage banks repatriated about 52% of their dollar debt, and 30% of their sterling debt before settlements were renegotiated in the early 1940s. The City of Bogota repatriated 60% of its external bonds before normalizing the debt service in 1946. Other two municipalities and six departments repatriated some 55% of their debt. It is not adventurous to say that most repatriations could have occurred between 1932 and the end of the first round of negotiations in 1937, since this was the period of lowest bond quotations, and the 1940s were dominated by final renegotiations and settlements. Some documentary evidence given below supports this conjecture.

Considering only the dollar debt some rough estimates can be advanced here. Using the percentages of individual repatriations given in the previous paragraph, total repatriations amounted to about US$56.5 million, namely 38.8% of the outstanding dollar debt in 1932. By using average prices calculated from Table 51 it is obtained that Colombian debtors paid some US$12.8 million, or 23%, for that contractual amount of US$56.5 million. By assuming that the remaining 61.2% of the dollar debt was paid at its nominal value, it is concluded that by means of repatriations at prices below par, Colombia only paid 70% of the contractual value of her external debt.

If repatriations per se were a controversial issue, the Colombian case, amongst others, was a subject of inquiry by the U.S. Securities and Exchange Commission. In one of the hearings, an official of Baker, Kellog and Co. -the bankers of the Cauca Valley Department- elicited an estimate that "Colombian dollar bonds of all descriptions with a market value of $12 million have been repatriated during the years that Colombia, its political subdivisions and mortgage banks have been in complete default on the same bonds".[21] Furthermore, it was established that Hallgarten and Co. -the bankers who floated the two main loans to the national government in the 1920s- had aided in repatriation of coupons on defaulted issues. The commission brought from a partner in Hallgarten Co., on admission that "the Colombian government had been repatriating interest coupons of the defaulted issues. Hallgarten and Co., on behalf of the Colombian Treasury, it was brought out, had purchased these coupons from bondholders at a price considerably under their face amount".[22]

In the end, one of the effects of the polemic about repatriations was to question the extent to which the foreign exchange constraint in Colombia was actually preventing a partial resumption of debt service, although as we saw in Section II.C.4., this was the conclusion of the report about Colombia prepared by the Institute of International Finance at the end of 1935.[23] Finally, it can be advanced here that after all the debate, repatriations became an integral part of settlements in the early 1940s. In a temporary arrangement agreed in 1940 (February) to resume the service of the dollar bonded debt of the national government,

Colombian authorities were authorized to invest a certain sum in the purchase of bonds in the market. The FBPC recommended this arrangement to the bondholders as a "step in the right direction".[24] Details about this agreement are offered below in our discussion of the second round of negotiations.

3. Contentious issues: Trade pressures against defaulting countries.

During the first round of negotiations there were attempts to use trade agreements as mechanisms of pressure to induce the Colombian government to resume debt payments. In 1933 the U.S. State Department took the initiative of negotiating reciprocal trade treaties with select Latin American countries. These treaties were thought to be part of the New Deal's approach to foreign policy. In the Colombian case, although a bilateral trade treaty had been agreed by both parties in 1933, the official agreement was not signed until 1935.[25] In the meantime, bondholders demanded that compelling methods should be applied to induce the Colombian government to resume the debt service, and the trade agreement discussion was seen as a proper opportunity to impose those measures. The FBPC revealed to the Colombian president that "an increasing pressure is being brought both upon the Council and upon Washington by bondholders who are insisting that some sort of coercive measure shall be adopted against Colombia along the model set up by European countries or by levying a special tariff against Colombian coffee, or by other equivalent method... You could consider whether it is prudent to implement measures in the near future destined to resume the debt service in order to prevent those actions".[26]

The Colombian president was not to be intimidated given his knowledge of the New Deal's approach to inter-American relations[27]: "this threat does not modify in any way the intent of the Colombian government to study quietly the best plan to meet the external obligations of the Republic".[28] Additionally, the U.S. State department clearly stated that trade and debt were separate issues, and that the aim of trade agreements was solely the resurgence of

international trade. When representatives of holders of Colombian bonds appeared before the Tariff Commission, the State Department declared:

"The position of the Department is that the primary purpose of the trade agreements negotiated under the Act of June 12, 1934 is the revival of international trade, and the agreement with Colombia, does not, therefore, contain provisions specifically relating to the resumption of service of Colombian dollar obligations. However, inasmuch as the decline in international trade was one of the principal causes of financial difficulties in many countries, it is to be expected that the revival of international trade which the trade agreement program seeks to foster will aid in remedying conditions which have led to defaults".[29]

There also existed practical reasons not to involve the issue of debt in trade negotiations. If U.S. trade negotiators had also to deal with the resumption of debt service, they would be asked to give some trade advantages in return. Furthermore, while a bond payment revision could be advantageous in a particular case, the precedent could work disaster in other cases.[30] In conclusion, the U.S. administration was not in the position of using any trade negotiation to protect bondholders, and therefore no provision for payments on bonds was included in trade agreements.

The attempt to link the trade and debt issues led to further conflicts on the creditors' side, since any trade sanction imposed on defaulters on their long-term debts would affect current businesses of short-term and commercial lenders. There was, then, a conflict of interests between commercial bankers and bondholders. The FBPC explicitly recognized this inconsistency on the creditors' side in a reference to the Colombian case in hearings of the U.S. Securities and Exchange Commission. Accordingly, the FBPC "never took any steps to obtain equal treatment for long-term Colombian bondholders with the American banks that hold short-term Colombian securities [the bank syndicate headed by the National City Bank mentioned in Section I.C.6] and still are receiving interest and amortization. [It was] pointed out that trade financing by the large institutions [the bank syndicate] gave them an obvious preference, and that this problem remains one of the difficulties faced in the settlement of foreign government defaults.[31] Additional conflicts were shown to exist between

bondholders and subsidiaries of big U.S. companies operating in Colombia which were also creditors of the national government.[32]

4. Initiatives of negotiation

Attempts of negotiation flourished as of 1937 with both the British and U.S. creditors. The [British] Council of Foreign Bondholders (CFB) was not an explicit negotiating body in the Colombian case before 1937; that function was left in the hands of Lazard Brothers and Co.[33] Late in 1935 the CFB made it clear that "we do not consider that any useful purpose would be served by any intervention on our part at the present time".[34] Some events prompted a closer attention of the CFB to the Colombian debt question, and encouraged an active negotiating role of the Council. Early in 1937 the British ambassador to Colombia (Paske-Smith) conferred with the Colombian president (López) who assured him the government was looking forward to the resumption of the external debt service. Additionally, the CFB formed a Colombian Bondholders' Committee so as to have a body to whom refer any offers made by Colombian authorities. The Committee was supposed to take some steps "to set the ball [of negotiations] moving".[35]

Mr. Paske-Smith informed the British Foreign Office about his conversation with president López. Accordingly, the president expressed that the improving fiscal situation "enabled the Colombian government to consider some step towards the renewal of their service on the external debt". Additionally, he assured the ambassador that "British bondholders could rely on receiving no worse treatment than that which will ultimately be given to United States bondholders". The president added, however, "that some arrangement would have to be made for the short-term loan of the National City Bank, the First National Bank of Boston and Messrs. Lazard Brothers, before they could reach any settlement with the bondholders".[36] In conclusion, there would not be discrimination between bondholders, but the 1931 short-term debt with the bank syndicate would be in the first place of the negotiating agenda.

The reaction of the CFB to the statements of the Colombian President emphasized two points. Firstly, though the British investments in Colombia were much lower than the American, the sterling debt was considerably senior to the dollar loans since the former was backed by some special securities. Secondly, the ambassador at Bogota "should be instructed to obtain the president's assurance that we should be kept advised of the Colombian government's proposals and that no agreement would be reached with the Americans until the Council had had an opportunity of expressing their views".[37] The first point -the fact that sterling loans were specifically secured-, would be a permanent argument of British negotiators until a final settlement of the direct sterling debt was reached in 1942. The second point shows a characteristic of the British negotiating style according to which ambassadors would play an active role in negotiations on behalf of the bondholders.

In the United States, while the FBPC showed growing impatience about what they considered an economically unwarranted position of Colombia regarding the resumption of partial external payments, the State Department maintained a more flexible attitude. Although these contrasting positions were more explicit since the end of 1935, some testimonies reveal that they already existed during the first months of the FBPC. One testimony of these discrepancies also shows that early initiatives of settlement by countries like Colombia were dismissed by the FBPC. Unfortunately, no specific details of those proposals are available. According to the Economic Adviser of the Secretary of State, "before many months had passed [since the legal incorporation of the FBPC in December 1933] I was listening to the aggrieved protests of the diplomatic representatives of several Latin American countries - Brazil and Colombia among them- against the refusal of the officers of the Council to accept offers of payment which they thought were the utmost their governments should be called upon to make at the time. I formed the opinion -and I was rather well informed about the capacity of these debtors to pay- that the representatives of the Council were being too demanding".[38]

Some movements were made in early 1937 towards an initiative of negotiation with Colombia. The British "money doctor" Sir Otto Niemeyer who had led missions to Brazil in the early 1930s, which paralleled the Kemmerer missions to Colombia and other Latin American countries, discussed the question of Colombia with the president of the FBPC regarding possible first steps.[39] But the decisive initiative resulted from a concerted effort of the State Department and the FBPC. It was agreed to send an academic with previous experience in the State Department, in mission to Colombia, representing the interests of the bondholders. The State Department arranged a leave of absence from Yale University for Dana Munro, former chief of the division of Latin American affairs, and who had led a similar mission to Cuba.

Regarding Munro's appointment, the Secretary of State Cordell Hull expressed that "the department would welcome a mutually satisfactory adjustment of this debt situation, both because of the benefit to American investors and because its continued unsettlement is an unsatisfactory element in its relationship with Colombia".[40] The CFB assumed that Munro would also deal with the sterling debt, but the FBPC discarded that presupposition.[41] It was then agreed that a representative of British interests would cooperate with Munro without participating in actual negotiations. Consequently, the CFB obtained from the Foreign Office that "suitable instructions" were given to the British Minister at Bogota.[42]

Conversations between Munro and Colombian authorities took place in May and September, 1937. In the last occasion president López pointed out internal political problems which could jeopardize any attempt of definitive settlement.[43] Nevertheless, the comptroller general Lleras Restrepo made an offer which happened to be not only the first concrete proposal of normalization of debt payments, but the one which became the basis of further definitive agreements. The Lleras' plan had the following characteristics. As to current interests, payments would be resumed in 1938 at a rate of 2% per annum which would be increased by 1/4 of 1% every following year until reaching the rate of 3%; this one would be the definitive annual rate starting from the fifth year. As to sinking fund, there would be

annual payments of 1% on the amounts originally issued. Finally, interest arrears would be written off. In summary, the plan invited creditors to forgive interest arrears and to make concessions on future interest payments by accepting a reduction of the contractual rate of 6% to the suggested one of 3%.[44]

According to Randall (1977), Munro rejected as "impractical" the Lleras' plan, because the FBPC was "perhaps trying to drive too hard a bargain".[45] Later in November 1937 the Colombian ambassador at Washington was on the point of beginning conversations with the FBPC, when the president of the council discontinued discussions with Colombia. It was argued that the new coffee policy introduced by Brazil in November 1937, which eliminated existing supports of coffee prices, created an uncertain prospect of the Colombian economy, therefore making more difficult the process of negotiation.[46]

5. Summary

What were the Colombia's preferences during the first round of negotiations? While expressing her willingness to pay, the country stated that payments would be restablished only according to the capacity to pay, without imposing unreasonable restrictions on government economic programs, and only when lenders conceded that the nominal contracts signed in the 1920s were unenforceable in the economic reality of the 1930s. On the other side, the best expected result for lenders would have been an immediate restablishment of payments according to the nominal contracts, without any concessions. In practice, however, lenders opted for not pressing immediate and permanent agreements, which did not exclude that attempts for a hard bargain were applied in the case of Colombia.

Finally, while debtors and lenders expressed their points of view about the normalization of debt payments, repatriations were an active market solution during the first round. This mechanism satisfied the preferences of the debtors and secured a partial payment to the creditors.

C. Second Round, 1938-1942

The second round started with initiatives to solve the debt question. Regarding the dollar debt, creditors urged the resumption of discussions. In April 1938, the president of the FBPC invited the Colombian ambassador in Washington to restart negotiations: "The important thing is to have negotiations. The promise of such negotiations has been held out to us as a possibility for the last four years...We are at your disposal".[47] As for the sterling bonds, debtors made a concrete proposal of definitive settlement of the obligations of the Mortgage Bank of Bogota which represented an important fraction of the Colombia's debt with British investors.

Two different phases are observed during the second round: first the 1938-39 period which was richer in controversies, particularly on the creditors' side, than in final settlements. It was the prelude of more fruitful years, 1940-1942, when creditors and debtors came to terms on the national government debt. During the first phase, the reader will find the strategies played by both U.S. and British negotiators. A critical aspect on the U.S. side was the direct intervention of the U.S. government. As for the British side, negotiators changed their strategies; initially they thought to be in the interest of investors to follow the U.S. negotiators game, but later they opted for less cooperative actions. Regarding the Colombian government, an outstanding characteristic of the second round was the purpose of getting fresh loans while settling the old debts.

1. First phase, 1938-1939

We start by discussing the first successful settlement of an external debt in October 1938. As the reader will note, the parties involved and financial observers were satisfied with the terms of the agreement. This accord was, however, an isolated outcome since most of the first

phase was absorbed by the design of strategies which would lead to the settlement of the national debt during the second phase.

a. Settlement of the sterling debt of the Mortgage Bank of Bogota.

Although the external debt of the Mortgage Bank of Bogota represented no more than 7% of the total external obligations of the country in 1938, a definitive settlement of the sterling tranche of that debt was not entirely a minor step forward. This bank was the major external debtor among the private mortgage banks, and also the major debtor regarding the sterling component of mortgage-banks external debt. As for the composition of its own liabilities, 67% of the foreign obligations were in sterling. Therefore, a settlement in this case meant more than a solution for two-thirds of the external debt of one bank. It implied a solution for the sterling debt in private hands, and perhaps more meaningfully, a way out for 40% of the Colombian debt with British bondholders.[48]

Negotiations took place between the Colombian bank and a committee headed by Lazards, the banking house which floated the loans. There was not direct intervention of the CFB since this was a private debt, and councils (the CFB and the FBPC) were only concerned with public and publicly guaranteed debts. When the agreement was reached in October 1938, the outstanding balance was £1,760,000 and the rate of exchange between the sterling pound and the Colombian peso in London, £1=C$8.37. Additionally, recent market quotations had oscillated around 25 1/4% of the face value of the bonds, a clear illustration of the substantial loss of market value of the obligations in question.[49]

The concrete proposal of the bank was as follows: holders of the 7% sterling bonds of the bank were offered C$415, 4% guaranteed bonds in exchange for every £100 bonds held. The new peso bonds would be redeemable in 30 years by a sinking fund beginning in 5 years. The government would not only guarantee the new bonds and their service, but also the foreign exchange required for the transfer abroad of interest and sinking fund payments at the rates of

exchange ruling at their maturity dates.[50] As seen, Colombian negotiators offered to pay C$4.15 instead of C$8.37 for every sterling pound of debt; although this proposal implied a reduction of the nominal value of debt by 50%, it was still a moderate adjustment regarding the much lower market prices of the bonds. As for interests, the proposal did not recognize payment of interest arrears, and the rate for future payments was reduced to a level closer to ruling international interest rates. Finally, the distinguishing feature of the proposal, namely, the conversion of sterling bonds into Colombian peso bonds was accompanied by the guarantee that foreign exchange will be available for the transfer payments.

What was the reaction of creditors and financial observers? Lazards mentioned to the CFB that this "offer represented a real effort on the part of Colombia".[51] Additionally, the CFB directors declared that "They have no reason to doubt that the terms proposed were the best that could be expected in the circumstances and that Bondholders would be wise to accept them".[52]

Simultaneously, the CFB adopted a defensive and to some extent contradictory or discriminatory position when looking forward to the negotiation of the national and publicly guaranteed debts. The directors added that "they wish to make it clear that they remain strongly opposed to any conversion of a Government, State or Municipal loan expressed in a foreign currency, into an obligation in local currency".[53] Further, the CFB insisted that "we should of course have a legitimate complaint against the Colombian government if they did not make a better offer with regard to their direct debt, or if, having concluded an arrangement with the direct debt they were to plead that they could not carry it out owing to their undertakings to the Mortgage Bank of Bogota bondholders".[54]

The Financial Times commented in its editorial page that "the offer is evidently a good deal, more generous than have been expected... Taking in account the serious depreciation which has taken place in the value of the mortgage portfolio on which the bonds are secured, Lazard Brothers believes that the offer should be accepted by the bondholders"[55]. In fact,

bondholders accepted the offer. Before one year had passed, 60% of sterling bonds had been deposited at Lazard Brothers for exchange for peso bonds, and by 1942 the relevant percentage was 98%.[56] Regarding the exchange rate risk, British bondholders enjoyed a favourable position, since during the first decade after the negotiation the Colombian peso experienced a moderate appreciation with relation to the sterling pound.[57]

b. Attempts of negotiation of the national government debt.

By the time the settlement regarding the external debt of the Mortgage Bank of Bogota was reached, new contacts for the renegotiation of the national external obligations were getting under way. The normalization of external debt payments was given a place among the priorities of a new executive administration in Colombia inaugurated in August 1938. The new president [Santos] mentioned the external debt question in his inaugural speech, expressing the desire of the government of fulfilling its obligations within the limits of what is "equitable and possible".[58]

The FBPC reacted immediately suggesting the creation of a Colombian committee to be sent to the United States to resume negotiations.[59] And in an interview with Sir Thomas Hohler, head of a British Trade delegation to Bogota, the president went beyond official declarations to express his view of debt settlements accompanied by fresh loans. According to a reference of this interview by the CFB, president Santos asserted that he had in mind "the possibility of a settlement combined with the grant by England of a credit to be used for developing new industries in Colombia".[60] This sort of arrangement -debt settlements going with fresh credits- would be present in the renegotiations of the external debt of the national government.

By mid-1939 the debt question was central in government policies. Authorities aimed at a restauration of both the internal and external credit of the national government. In a message to Congress the president expressed: "In the whole matter of our public finances, the

problems of major importance today are, without doubt those pertaining to the national debt...The government has felt that the solution of the actual state of things constitute the most urgent task in the matter of public finances, and in the execution of that task the government has applied itself with all intensity..."[61]

An outstanding result of this endeavour was the Law 54 of 1939 which authorized the government to adopt measures in connection with points such as the "regularization of the service of public debt and resumption of the service of the loans that are now in total or partial default, in accordance with new conditions that may be agreed upon by the Executive Organ,...". There were also authorizations for the floating of loans destined to the development and defense of industries, "especially that of coffee". The law explicitly mentioned that no authorizations were being given to establish or increase existing taxes. Therefore the new measures were supplemented by authorizations to reduce public expenditures in order to maintain a balanced budget. In conclusion, the government was authorized to restructure and normalize the debt service, and to float new loans, within a framework of government expenditures discipline.

i) Strategies of negotiation on the U.S. side.

Was there a strategy of negotiation on the side of U.S. creditors? As discussed above, creditors' representatives based negotiations on principles destined to protect the foreign investment of bondholders. In practice, the FBPC drove a hard bargain with Colombia. As commented before, initiatives put forward by Colombian negotiators were rejected by the council, including the proposal by the comptroller general to the FBPC envoy Dana Munro in August 1937. An important change was to be felt since early in 1939, however. The State Department was to play a more active and decisive role in negotiations. With this explicit involvement of the U.S. government, what was under question was not only the

normalization of debt payments but the hemispheric aspirations of the United States under the New Deal's policies of "good neighbour" and "open door".

In the interest of expanding export markets in Latin America, Colombia was considered as a candidate for loans of the Export-Import Bank. While contributing to boost U.S. exports, such credits would pave the way for the solution of the debt question. This point of view expressed by the Treasury Secretary, Henry Morgenthau, early in January 1939, and backed by the U.S. ambassador to Colombia, found some opposition in the State Department which sustained that before any financing was given, Colombia should take the initiative of solving the current debt problem. Morgenthau's initiative would get through towards the end of the year as we will see below.

Recent research has suggested that the persistence of the Treasury Department in normalizing financial relations with Colombia was also explained by the foreign oil policy of the United States. Changing political situations in Latin America during the 1930s, and the temporary lack of access to oil supplies from the East Indies and the Middle East during World War II, focussed the attention on oil producers in the Caribbean. By 1942, 42% of the world petroleum reserves were located in the United States. In the case of an oil shortage for military use, the Latin American reserves which amounted to 12% of the world total would be easily accessible. Although Venezuela was endowed with three-quarters of the Latin American recoverable oil reserves, Colombia was in the second place with 9% of the reserves, and with refineries which the U.S. authorities considered could quickly be brought into production in the case of a wartime supply problem.[62]

On May 25 1939, the Colombian ambassador to Washington began formal conversations with the FBPC for the purpose of reaching an agreement regarding the dollar debt of the national government. According to the minister of finance, this was a more defined stage of negotiations based on a written presentation of Colombia's point of view. Given that Brazil had recently made an agreement which comprised credits opened by the Export-Import Bank

to the Brazilian industrial sector, it was speculated in the media that a similar agreement was being sought by Colombia. To attenuate this conjecture, the minister declared that "these negotiations have no bearing whatsoever on any other negotiation and they have been undertaken by the government of Colombia with the primary object of seeking to comply with our foreign committments within the limits imposed by our real capacity to pay".[63]

The direct intervention of U.S. government departments in the renegotiation of Colombian and other Latin American debts, and the consequent partial displacement of the FBPC from the negotiating table was encouraged by official declarations of President Roosevelt in October 1939. According to The New York Times, the president expressed himself as "rather disappointed with the work of the Foreign Bondholders Protective Council", and even "reiterated his stand in favour of scaling [debts] down".[64] These comments were accompanied by official indications that the U.S. government was preparing "a formula with which to deal with the readjustment of Latin American debts as a basis for extension of credits to the republics..." (emphasis added). Such a formula would involve "substitution of direct government negotiation for the semi-official efforts at debt settlement made since 1933 by the Foreign Bondholders Protective Council...". Finally, it was added that the "scene for experiments" with the new formula would include Brazil and Colombia. This last country was "expected to provide the test of the new contemplated direct negotiation policy".[65]

The FBPC rejected Roosevelt's attacks and explained them as a governmental excuse to justify New Deal's international programs. They accused the government of attempting "to toss good money after bad" in its "latest experiment in international pump priming". More even, the FBPC blamed the government for its unwillingness to force foreign debtors to pay.[66] In this rather strained situation the conflict was not only between the U.S. government and the FBPC; debtors who presumably would benefit from the U.S. administration approach would also have to endure some adverse publicity.[67] As for the negotiations between the

Colombian embassy in Washington and the FBPC, they also would reflect the conflict, with the Embassy assuming defensive positions or denouncing the inflexibility of the FBPC.[68]

Morgenthau's initiative of granting credits of the Export-Import Bank to Colombia so as to foster U.S. exports and facilitate a debt settlement appeared to have succeeded by the end of 1939. On December 5 1939, Morgenthau himself, the president of the Export-Import Bank, members of the State and Commerce departments, and Esteban Jaramillo, the former Colombian finance minister who in vain had tried to keep up the external debt service during the early 1930s, met to discuss the Colombia's case. No member of the FBPC was invited to this meeting which established a precedent for some other sessions during 1940.[69] Shortly afterwards (February, 1940) Colombian authorities announced a provisional settlement regarding the dollar national debt as we will see below. Also during the first months of 1940 the Export-Import Bank granted its first loan to Colombia for US$10 million. This was the first time the country got access to foreign financing of official origin.

ii) Defining strategies. Changing British positions.

The fact that only 10% of the bonded external debt of Colombia was in the hands of British bondholders determined the negotiating strategy of the CFB. To be precise, only 6% of the long-term external debt of Colombia was a matter of direct interest of the CFB, since the debt of the Mortgage Bank of Bogota was a private debt. Additionally, while 50% of exports and imports of Colombia (as of 1938) was with the United States, only 12% of imports and a negligible 0.5% of exports were traded with Britain. To complete the scene, the prospect of extending new credits to Colombia was by far more viable in the United States than in Britain; needless to say, the flotation of fresh loans in the London market after the outbreak of World War II became unlikely. In these conditions, having understood the weakness of its bargaining position, the CFB considered it fortunate to obtain no worse terms than those given to the dollar loans.

Even under the limited conditions just mentioned, the CFB remained very active regarding opportunities to restart negotiations. An illustrative experience was the attempt of the CFB of pressing the resumption of negotiations coinciding with a mission sent by the British Board of Trade to Bogota in early August 1938. At that time, there existed an understanding between the CFB and the FBPC according to which it was the latter which should initiate negotiations at the "opportune" moment. At an international conference of bondholders associations held in Paris in June 1938, officials of both councils discussed the Colombian debt situation taking in account the intended British delegation to Bogota. The message of the CFB was that "negotiations should be resumed by the FBPC early in August so as to coincide with the British Trade Mission's visit to Bogota".[70] The CFB did not get an unqualified "yes", but only a joint private manifestation that "it might be appropriate that an attempt should be made at about the same time or soon afterwards to resume conversations with the Colombian government".[71]

The British government discarded the CFB's aspiration of associating debt negotiations with trade arrangements. In this respect, the British government's reaction resembled that of the U.S. government in a similar situation in 1934. According to the CFB, "the Board of Trade view is that if we now pressed the Colombians to settle their foreign debt, they would insist on linking this question with the trade discussions and that neither we nor the Trade Mission would make any headway".[72] Also according to the CFB, Sir Thomas Hohler, head of the trade delegation "made it clear that he would not discuss the debt problem with Colombia but said that he would take any suitable opportunity to impress on the Colombians the importance from the point of view of their own credit of coming to an agreement over their external debts".[73]

Because the relative bargaining position of the CFB and the FBPC was to the disadvantage of the British bondholders, the strategies followed by the former were a continuous matter of controversy. Between mid-1937 and mid-1939 the CFB stuck to the strategy of not attempting to get better treatment for the sterling government loans than could be given to the

dollar government loans. The strategy changed in mid-1939 when the council expressed that most of the sterling loans to Colombia deserved a preferential treatment. In practice, the change of strategy meant that instead of cooperation both councils would conduct separate negotiations.

The first negotiating strategy of the CFB was designed in 1937 when the FBPC envoy, Dana Munro, initiated negotiations in Bogota. In such occasion the CFB communicated to the FBPC that "both you and we are only representing Government and Government guaranteed loans, and [we] take it that as between these, neither of us claim preferential treatment...". In this context the CFB noted that while the FBPC envoy "will negotiate for the best possible terms for the dollar loans and Mr. Paske-Smith [ambassador to Colombia] will help him in pressing the Colombians to do their best and will tell them that he is not negotiating for the sterling bondholders but that he expects them to be offered the same terms that are offered to the dollar bondholders".[74]

Why did the CFB consider that it was maximizing the value of the sterling loans to Colombia by acting as a follower of the FBPC actual negotiating? It was not only because of the dependence of Colombia with respect to the United States regarding trade and credit, but because ongoing negotiations with other countries, with major British interests involved, made it inadvisable to antagonize the Americans in the Colombian case. Brazil, the major Latin American debtor, was the focus of attention. As seen in Section II.C.3., 65% of the Brazilian external debt was in the hands of British bondholders, and therefore the CFB wanted to minimize any concessions to the U.S. creditors.

In an explanation of its negotiating strategy to the Foreign Office, the CFB expressed: "The Council feel that in the interests of British bondholders in Brazil and in other countries they would be unwise to make a separate settlement with Colombia. They have therefore decided to throw in their lot with the U.S. bondholders and to demand no better terms for sterling loans than are accorded to dollar loans".[75] By mid-1938 the CFB accepted that there could

be some changes in the strategy in the sense of for instance taking the initiative of inviting the Colombian government to negotiate. But even in this case, any action would proceed only after consultation with the FBPC, and "in any case the understanding would inevitably be that sterling and dollar loans should be treated alike".[76]

The committment of the CFB with its own strategy started weakening in early 1939. There was a sense of lack of cooperation of the FBPC, but most of all, the evolution of negotiations with other debtor countries, particularly Brazil, created doubts about the soundness of the strategy adopted in 1937. The results of a visit of the Brazilian minister Aranha to Washington at the beginning of 1939 made an important effect on the CFB's appreciations. The Roosevelt's administration invited Aranha not only because of New Deal's reasons, but because of considerations of international politics. Germany was the second most important customer of Brazil, and given the international expansionism of the former, and the importance of the latter in Latin America, German economic interests in Brazil became a matter of concern for the United States.[77] The effect of Aranha's visit was the extension of credits by the Export-Import Bank in exchange for a partial renewal of debt service (footnote 64 of this section).

The CFB's Colombian Committee faced, then, a new situation. The president of the CFB expressed that "Our experience of attempted cooperation with the American Council and the outcome of Aranha's recent discussions in Washington raises the question whether, if we believe that at any rate some of the sterling loans deserve better treatment than some of the dollar loans, we should do our best to secure it or should abandon it". The answer was suggested by the following description of the current U.S. approach to conducting negotiations: "One cannot help wondering whether we shall receive any reciprocity from the USA in return for any restraint on our part, and whether we have on the other hand much reason to believe that the Washington Administration will do anything effective in favour of dollar bondholders in Brazil or any other country".[78]

The Committee then decided to abandon an important ingredient of the strategy of throwing in its lot with the FBPC, in order to get some measure of practical recognition of the preferential claims of the secured loans. What and how important were the secured loans?

Four of the five sterling loans to the national government had some special security. The 5% Bogota-Sabana Railway mortgage loan of 1906 was a direct obligation of the national government, specially secured by trust deed on Bogota-Sabana Railway (25 miles). The 6% loan of 1911, secured on 3% of customs revenues of the Republic. The 6% bonds of 1913, secured by 7% of the total custom revenues of the Republic, any deficiency to be met out of the general revenues. And finally, the 6% bonds of 1920, secured by a first charge of 5% on the Atlantic customs revenues, and by guarantee of the Republic. Although one sterling loan was not especially secured, its relatively very small amount implied that 97% of the sterling debt was backed by special securities. Finally, it has to be noted that the specially secured sterling debt was in the proportion of 1 to 9 with respect to the non-secured dollar debt of the national government.

The strategy of getting some measure of practical recognition was then put forward. The chance of getting some preference in favour of the secured loans from Colombia was "extremely little" according to ambassador Paske-Smith. Colombians would have to make their offer first to the Americans, and if a settlement was reached, the ambassador explained, the Americans would insist on a clause excluding other creditors from getting better terms.[79] The change of strategy was presented by the CFB to the FBPC as representing "a very strong feeling amongst the interests we represent that in any debt settlement some measure of practical recognition should be given to the preferential claims of the specially secured loans". What was being proposed was a recognition of the principle according to which government debts with guarantees "should receive a better treatment" than government debts without guarantees.[80]

The CFB presented the case of secured loans to Colombia as a reference for other more complex negotiations.[81] On the other side, the FBPC's insinuation that the distinction between "secured" and "unsecured" loans was meaningless, led to further conceptual debates. The FBPC stated that "the situation seems to be that these so-called "securities" are not in fact securities and that because they have not been effective against the funds designated the idea apparently is to give the bonds an actual preferential position on the general revenues and exchange of the country". And in a direct reference to the four "secured" sterling loans to Colombia, the FBPC asserted: "All the securities you [the CFB] refer to as pertaining to the sterling bonds appear to be unenforceable and they have not been made effective, in fact, during the period of default".[82]

The CFB defended the point that specifically secured loans had a preferred position. While unsecured loans were to be paid out of general revenues of the debtor government, the secured loans in addition to also classifying against the general revenues had a specific priority against part of those revenues. This priority would not disappear in the event of default.[83] The CFB highlighted the role played by specific securities in the foreign credit market. Such securities had been part of the offer to potential investors, and therefore the decision to invest abroad would have been influenced by their own existence. In fact, the CFB alleged, bondholders had accepted lower rates because of the special security offered. The image of this decision in the market would have been higher quotations for secured loans, an experience confirmed "throughout the history of foreign lending".[84]

While this interchange of opinions took place, the Colombian embassy in Washington and the FBPC came back to the negotiating table. After the storm created by Roosevelt's references to the FBPC in October 1939, and coinciding with the appointment of a new Colombian ambassador, negotiations were resumed in November. There was also an explicit intervention of the Colombian representative on the Inter-American Financial and Economic Advisory Committee, Esteban Jaramillo.[85] As seen above, Jaramillo attended the meetting organized by Secretary Morgenthau at the beginning of December to discuss the Colombian

debt question. The presence of Jaramillo was not of secondary importance, since according to the British ambassador Paske-Smith, Jaramillo "has been given ample powers ... to negotiate for a settlement with the United States Bondholders Council".[86]

As the negotiations with the FBPC went on, the CFB felt the sensation of being left behind. "We understand that discussions are in progress" wrote the CFB to the FBPC, adding that "we are also closely interested in this question respect of the sterling bonds".[87] The CFB was not confident in obtaining a quick and helpful answer from the FBPC, and therefore tried to obtain it through the Foreign Office and the embassy at Bogota: "from past experience of the Council, [we] do not expect to get a reply for a very considerable time and in all probability not until the American Council has got everything cut and dried for the dollar bondholders".[88] As a matter of fact, the FBPC replied that although talks were being held, it was not possible to forecast what the final situation could be.[89] Notwithstanding, less than a month later the Colombian minister of finance announced that an agreement had been reached in Washington, as we will see below.[90]

The CFB feared that Roosevelt's policies in Latin America could deprive the value of British loans: "in view of the efforts which are being made at the present time between the United States government and Latin American countries in various directions ... there is some danger that the sterling interests may get pushed into the background" Consequently, the CFB asked the Foreign Office to instruct the ambassador in Bogota to try to ascertain the proposals discussed in Washington, and to ensure that the sterling debt was not overlooked, "emphasizing of course, that four out of five of the sterling state loans are secured whereas none of the USA dollar state loans have a specific security".[91]

To sum up, the first phase of the second round of negotiations was not fruitful in final agreements. However, the only successful negotiation of the period brought about the settlement of 40% of the external debt of British origin. The choice of strategies was the dominant characteristic of the period. Furthermore, the first phase showed how governments

of creditor countries were not passive observers of negotiations, but as the reader will find out during the second phase, crucial factors of final agreements.

2. Second phase 1940-1942

The 1940-1942 period was fruitful in offers and settlements. The main achievement was the definitive settlement of both the dollar and sterling bonded debt of the national government. Offers were made to normalize the service of the dollar debt of mortgage banks, and also a final agreement was reached regarding the short-term debt with the group of financiers headed by the City Bank of New York. No proposals were made with respect to the municipal and departmental debts with the exception of the municipality of Barranquilla. Considering only the long-term debt, the settlements carried out during 1940-1942 represented some 47% of the outstanding balances. The reader will be introduced to the first dollar settlement of the time before going into the facts which accompanied the final agreements regarding the national debt.

a. Settlement of the debt of the City of Barranquilla

We briefly mention the proposal made by Barranquilla at the end of 1939 (November 22). Although Barranquilla floated no more than 8% of the municipal debt, hers was the first successful renegotiation of a defaulted dollar debt.[92] What is particular in this case is that although funds were not remitted abroad because of the exchange control imposed in 1932, the City deposited funds for the service of the bonds in local banks. The proposal sought to take advantage of a modification in the exchange control restrictions which authorized the transfer abroad of that sort of deposits. The City offered to the bondholders new 25 year 4% bonds in exchange for the existing 8% bonds, and for 60% of interest arrears. As an alternative, bondholders could sell their old bonds for Colombian pesos at a 60% of their nominal values. The negotiation was effected between the City and the City National Bank of Chicago which had been the fiscal agent of the loans.

Although there was not direct intervention of the FBPC, the Council expressed concern for the lack of more adequate security for the service of the new bonds, since future payments would again depend on the "willingness and the ability" of the government to permit remittances abroad. In this context, the FBPC found questionable the fact that the negotiation had sacrificed back and future interest.[93] In practice, bondholders accepted the proposal, and by 1942 no bonds of the 8% issue were outstanding. The local currency deposits made by the City in local banks between 1932 and 1939 were enough to retire 17% of the outstanding amount of old bonds in 1939. In conclusion, the first negotiation of a dollar debt partially forgave interest arrears, accepted peso payments for a non-negligible fraction of old bonds, and reduced the interest rate for future payments from 8% -a level "too" high in the 1920s-, to 4%, a level closer to international rates in the late 1930s.

b. Settlement of the dollar debt of the national government

As noted above, direct conversations with the FBPC resumed in November, 1939, after the controversial declarations of president Roosevelt. These meetings would lead to concrete though still temporary proposals. Negotiations kept going under the "friendly mediation" of the U.S. government officials. According to the Colombian minister of finance, "the kind intervention of American officials which was limited to prompt an agreement between both the representative of the government and the representative of the council eased the negotiation process".[94]

It has been mentioned, however, that some directions of future agreement were "suggested" by the U.S. mediators at this stage of negotiations. For instance, according to the British Foreign Office, the ambassador Paske Smith informed that "a hint has been conveyed to the Colombians that if they will accept 3% interest plus [US]$1 million annually to be applied to buying up bonds in the United States market, the State Department would then urge the United States Bondholders Council to accept these terms...".[95] Further, as the debt

negotiations evolved, the interdepartmental committee headed by the Treasury Secretary Morgenthau carried on discussions on prospects of credit to Colombia. By the end of December 1939, Morgenthau confirmed to the New York Times that the Colombian credit plan was "still cooking".[96]

Early in February 1940, the minister of finance announced that a provisional agreement had been negotiated "since existing divergencies have prevented a definitive settlement from being reached".[97] Randall (1977) based on correspondence of the Colombian ambassador to the United States, to Secretary Morgenthau, asserts that "the interdepartmental committee [Commerce, State and Treasury Departments]...persuaded a reluctant Foreign Bondholders Protective Council to accept a Colombian proposal for a temporary settlement ...".[98] The agreement only contemplated the dollar debt of the national government made up of the 1927 and 1928 loans, which constituted one-third of the total dollar debt of the country.

The provisional agreement, valid for the year 1940 only, implied that interests due during the year would be paid at the rate of 50% of their nominal value, namely 3% instead of the contractual rate of 6%. Additionally, the government committed himself to purchase bonds of the external loans of 1927 and 1928 in the open market for a nominal amount corresponding to the investment of US$400,000. Finally, the government undertook to present for cancellation and retirement US$5,997,500 principal amount of 1927 and 1928 bonds held in Colombia; these bonds had been purchased in the open market and repatriated during 1932 and 1933 under the legislation enacted to "rescue" the financial system. As we saw in Section II.B.2, the repatriated bonds were received by the commercial banks in payment of private credits, and then exchanged for bonds of the internal debt.[99]

Regarding the provisional offer, the FBPC recommended its acceptance by the bondholders: "The Council feels that the present resumption of payment on a temporary basis is a step in the right direction and the bondholders may consider it to their interest to take the amount offered for this year"[100]. Internally, the government defended an accord which not only had

reduced by one half interest payments, but allowed to make open market operations at the depreciated values of the time.

Simple calculations show the advantages derived by the government from the agreement. Before the implementation of the offer the oustanding balance of the 1927 and 1928 loans was US$51,223,500. This balance was reduced to US$45,226,000 after the cancellation of the bonds repatriated in 1932-1933 which were mentioned in the previous paragraph. Additionally, during 1940 the price range for those loans was 34%-15 3/4% (Table 51) which obviously made open market purchases profitable. In practice, the government bought up bonds for a nominal value of US$1,509,500 by investing only US$400,000, which gave an average price of 26%. Given these open market purchases, the new interest rate of 3% (plus 1% for amortizations) affected the final outstanding balance of US$43,716,500. The resulting interest payments of US$1,750,000 compared favourably with the fixed annual amount of US$4,200,000 which had to be paid under the original contracts. In summary, while bondholders obtained cash payments during 1940, the government only paid some 40% of the contractual interests, and made capital gains of about 75% with relation to the face values of the bonds.

Once the provisional agreement was reached, negotiations went on to achieve a definitive settlement. As of mid-1940, the government understood that although negotiations were still in process, the limits of the discussion were already established. Then the government took the initiative of defining by decree the basis which could regulate the debt service once the provisional agreement expired. According to the minister of finance such basis represented the maximum commitments the government could satisfy, and beyond which the government could not go in any case.[101]

The basis defined by the government included the exchange of present bonds by new ones which will carry interest of not more than 3% per year; capitalization of 50% of interest arrears and exchange of unpaid coupons for new bonds; annual allocation during five years of

US$1.8 million to debt service; and annual allocation from the sixth year on of US$2.0 million. Additionally, the government was authorized to suspend the debt service if economic or fiscal conditions prevented the country from completely servicing the new issue.[102] This basis was communicated to the FBPC which according to the minister of finance "opposed a strong resistance to it".[103] Based on Morgenthau diaries, Randall(1977) indicates that the government formulated its basis for a final settlement with the unofficial approval of the departments of State, Treasury and Commerce".[104]

At the end of the provisional agreement in December 1940, the State Department proceeded to announce the basis defined by the Colombian government and to recommend it to the bondholders. A joint statement by the State and Treasury Departments, and the Federal Loan Administrator concluded as follows:

"While the Government of the United States has no direct interest in the matter, the Department of State, the Treasury Department and the Federal Loan Administrator have acted as friendly intermediaries to assist the parties in reaching an agreement, and they are of the opinion that in view of conditions that have prevailed since 1932, the offer of the Colombian Government constitutes a fair effort on its part to adjust its obligations. They recognize, of course, that the bondholders must make their own decision."[105]

The statement highlights the "fair effort" of the Colombian government while minimizing the U.S. government interventionist role.[106] Six months later the Colombian government offered a debt plan to the bondholders which followed the basis outlined above. The announcement of the Offer (June 5 1941) was careful to recall that the State Department had publicly commented (December 30 1940) with respect to the fairness of the Offer.[107] Additionally, the U.S. bondholders were offered the guarantee of most favoured nation, a precedent which would affect the negotiations with British creditors. In the form of the new 3% Bonds, holders were advised that:

"The Republic agrees not to offer to holders of other external bonds of the Republic now outstanding any settlement on terms more favourable than those contained in the Offer; and to the extent that the holders of such other external bonds may be accorded terms more favourable than those contained in the Offer, the Bonds shall be entitled pari passu to receive proportionately more favourable treatment".[108]

What was the reaction of the FBPC to the State Department's press release and the Offer of the Colombian government? The FBPC strongly disapproved the Colombian debt plan explained in both of them. Once the former document was published, the FBPC stated that "it [the council] cannot recommend this plan ... as a just, fair and equitable offer...". Emphatically, it added that "the council feels that it must protest against the inadequacy and unfairness of this offer which was not based on what Colombia can plainly do". And with respect to the effects of the U.S. government position on the future attitude of the Colombian government, the FBPC stated that "the Council does not feel justified in expecting that the Colombian government will make any more favourable proposal to the bondholders in view of the United States government's characterization of the present offer as costituting a fair effort on Colombia's part to adjust its obligations".[109]

The FBPC alleged that the 50% cut in interest rates was out of line with the Colombian economic possibilities and her position as credit risk. Additionally, it was argued that bondholders were being discriminated against since the 3% interest rate of the Offer was inferior to those paid on other external debts -the recent Export-Import Bank 4% loan, and the also 3% but short-term loan of the bank syndicate granted in 1931- and on the internal debt. Finally, the FBPC objected the fact that the government had included in the basis of the offer the right to stop payments due to adverse economic or fiscal conditions.[110]

As seen, the main reason for inconformity of the FBPC was the 50% cut in the contractual rate of interest. The council had recommended the provisional agreement for the year 1940 only, which implied a similar reduction of interest rates, but without affecting the contractual rates. What the council opposed was the adoption of the temporary reduction as a permanent measure which would modify the contracts against bondholders interests, while the government kept the right of suspending the debt service. The FBPC even suggested to extend the provisional agreement beyond 1940, until the uncertainty created by World War II had receded. Clearly, the council tried to defer a definitive settlement until world economic

conditions were propitious for an outcome more favourable to creditors. As Colombia did not accept that suggestion and decided to launch its own initiative of settlement with the backing of the U.S. government, the council refused the offer and accused the Colombian government of aiming "to lower the interest rate as much as possible in order to depress the value of the bonds...".[111]

Because the FBPC recommended the refusal of the Colombian offer, the final word was left to the bondholders who had to decide whether or not to accept the conversion of bonds under the conditions of the offer. As seen above, at the end of the provisional agreement the outstanding balance of the 1927 and 1928 loans was US$43,716,500. The Colombian debt plan offered to exchange the old 6% bonds due 1961 in the hands of the bondholders, for new 3% bonds due 1970; the plan also offered new 3% bonds to capitalize 50% of interest arrears accumulated between 1935 and 1939, which amounted to US$6,283,372.5. To satisfy these requirements, the authorized issue of 3% bonds added up to US$50,000,000. What is important to note here is that during the first six months of the offer (June 30 to December 31, 1941), 46% of the total authorized issue of 3% bonds was accepted in exchange by the bondholders; by 1942 that figure had risen to 76%, and by 1945 to 88%. In conclusion, the Colombian debt plan was successful and became a definitive settlement with the bondholders in spite of the disapproval of the FBPC.[112]

c. Settlement of the dollar debt of mortgage banks

The next step was the settlement of the dollar external debt of the Colombian mortgage banks. By 1933, 45% of that debt was publicly guaranteed and in the hands of the Agricultural Mortgage Bank (AMB). Other 47% of such debt was in the hands of two private institutions -the Mortgage Bank of Colombia and the Mortgage Bank of Bogota-. Also in 1933, as part of the measures to rescue the financial system, the AMB took over the mortgage assets of these two private banks and assumed the liability for their external bonds. Therefore when the AMB started negotiations in 1941, it represented about 92% of the mortgage bank

dollar debt; by extension, the negotiations also involved the remaining 8% of private dollar debt in the hands of the Bank of Colombia.

By 1941, Colombian official statistics and the records of fiscal agents in the United States indicated that the outstanding Colombian mortgage debt added up to US$22.7 million, of which US$10.3 million corresponded to the publicly guaranteed debt, and the remaining US$12.4 million to private, non-guaranteed debt.[113] Negotiations, however, considered substantially different amounts. It was revealed that by 1941 the total mortgage debt amounted to US$10.9 million, the guaranteed debt being US$5.4 million and the non-guaranteed one, US$5.5 million. The difference of 52% between the two aggregate amounts appeared to be explained by open market purchases of bonds which were repatriated but not returned to the fiscal agents for cancellation.[114] According to Table 51 the AMB repatriated its bonds at prices ranging between 17% and 29% of the face value between 1936 and 1941.

Negotiations did not take place between the AMB and the FBPC, but between the Bank and officials of the U.S. State Department. The formula finally adopted was as follows. Holders of guaranteed bonds of the 6% and 7% issues of the AMB were offered in exchange 3% Government bonds. The ratio of exchange was of US$1,100 of Government bonds for each US$1,000 of guaranteed bonds. This ratio implied that bonds would be exchanged, par for par, and that US$100 in convertible certificates were being offered for 7 1/2 years of interest arrears. Regarding holders of non-guaranteed bonds the offer was different. Holders were offered US$750 of 3% Government bonds for each US$1000 of non-guaranteed bonds. This ratio implied that no payment of back interest accumulated during 10 to 10 1/2 years was recognized, and that a reduction of the face value of the bonds was determined.[115]

The plan of conversion received the support of the U.S State Department, and Secretary Cordell Hull declared himself "gratified" with the announcement of the offer. In a personal statement published on the same date of the offer, the Secretary pointed out that "this is a sequel to the adjustment by the government of Colombia in December 1940 of its own

defaulted bonds. While the government of the United States has no direct interest in the matter, and the bondholders, of course, must decide for themselves whether to accept the Bank's offer, it is nevertheless considered that this is a further constructive effort to adjust Colombian foreign indebtedness on an equitable basis".[116]

The FBPC made a statement to make plain that it did not negotiate the offer, and provided details about the AMB's plan. Regarding the guaranteed debt, it was shown that for every US$1,000 guaranteed bond of the 7% issues, interest arrears amounted to US$525 dollars; because only US$100 dollars were being offered for past due interest, it was concluded the offer implied that 81% of back interest was being forgiven. Similarly in the case of the 6% issues where for every US$1,000 guaranteed bond, interest arrears amounted to US$450, the offer implied that 78% of back interest was being forgiven. The FBPC called the attention of bondholders to the fact that Colombia had recognized 50% of interest arrears in the case of the public national government debt, and was accepting only about 20% with respect to the publicly-guaranteed debt.

Concerning the non-guaranteed debt, because interest arrears ranged from US$680 to US$735 for different issues of US$1,000 bonds, the 25% reduction of the face amount of the original bonds contemplated in the offer implied that for every US$1000 non-guaranteed bond, holders would be making a loss of from US$930 to US$985. In conclusion, Colombian negotiators moved from recognizing 50% of overdue interest on the national government debt, to 20% of overdue interest on the guaranteed debt, to total cancellation of past interest on the non-guaranteed bank debt. Additionally, while the nominal amounts of debt were left unchanged in the first two cases, it was reduced by 25% in the last case.[117]

Did bondholders accept these offers? According to the Exchange Agent, the National City Bank of New York, 81% of the AMB debt, and 71% of the non-guaranteed debt had been exchanged by 1946. Because no additional new 3% Government bonds were authorized for

these exchanges, these operations were carried out by using 3% bonds actually redeemed by the Colombian government since July 1941.[118]

d. Settlement of the sterling debt of the national government.

The CFB followed the course of the Colombian dollar debt negotiations through information sent by the British embassy in Bogota to the Foreign Office.[119] The CFB found the dollar debt agreement to be a "distinctly generous" one. Why? Because among other things the offer contained a "most favoured nation" clause.[120] Formal negotiations with representatives of British creditors started in April 1940, when the provisional agreement with U.S. creditors was already in force. Conversations took place in Bogota between the minister of finance, Lleras Restrepo, and the manager of the Bank of London & South America in Bogota, Arthur Thompson.[121]

i) Coffee and debt settlement

Coffee was an important issue during negotiations in 1940. Colombia was seeking to find markets for 600,000 bags of coffee formerly taken by Germany, and European creditors explored the possibility of taking advantage from this situation. The French government offered to purchase 300,000 bags on the condition that 35% of the price was set aside to paying off the debt due to Lazard Frères of Paris; this debt was part of the short-term loan granted by the bank syndicate headed by the National City Bank of New York in 1931, in which Lazard Brothers of London through its subsidiary Lazard Fréres of Paris had interests. Although the agreement with France failed due to the high price of Colombian coffee as compared with the Brazilian coffee, it was a precedent for later initiatives.[122]

The CFB although officially opposed to find any direct link between coffee purchases and settlement of defaulted debts, did its "utmost ...to get [the British government] to cause coffee purchases to be made from Colombia..."[123] The CFB asked the Treasury Chambers to find

the way of importing coffee from Colombia, perhaps by diverting purchases already made from Central America. Officials of the Bank of England shared the position of the CFB since a "lever" was needed to strengthen the British bargaining position. These pressures proved unsuccessful for a variety of reasons such as the existence of already high stocks of coffee in Britain and the restriction of imports imposed by the war.[124]

ii) Credit and debt settlement

The idea of fresh credit to Colombia associated with a permanent debt settlement was not new when negotiations commenced in April 1940. As seen above, since the beginning of the Santos Administration in August 1938, the President and the British ambassador had discussed such idea. The ambassador coincided with that proposition, and early in 1939 when visiting Britain, he was doing his utmost to secure credits destined to stimulate future exports to Britain.[125] The link between new credits and resumption of debt service was explicitly made by the minister of finance to the British negotiator. Given the depressed economic conditions of Colombia during 1940, a resumption of debt service would only be possible if there existed "some counter-advantage for [Colombia] particularly if it were in the direction of assistance in her immediate problems".[126]

The British ambassador summarized for the Foreign Office the position of the minister of finance by mid-1940.[127] Accordingly, the minister asked "if it were not possible to arrange simultaneously for £1,000,000 credit against coffee either for the United Kingdom or France...Should such a credit be given then he would be in a position to justify extra foreign exchange needed for pressing payments on the debt". The minister suggested that "if a coffee agreement were reached, he would then without hesitation offer a settlement on debt including the Agricultural Mortgage Bank as well. He also added that an American credit had been received simultaneously with the debt settlement and that it had been in fact this credit which had enabled him to justify the settlement".[128]

The aforementioned credit for £1 million represented some 20% of the Colombian direct sterling debt. The ambassador communicated to the British negotiator that the evolution of the war in Europe had affected foreign credit operations, and particularly, "that the question of the £1,000,000 deal had advanced considerably in the days before the attack on the Netherlands but had since remained in abeyance". Based on their discussions with the finance minister and direct knowledge of current economic conditions in Colombia, both the ambassador and the negotiator concluded that "unless something were arranged in the matter of taking coffee or helping Colombia in some other way there was little likelihood of getting anywhere ... as regards the bonded debt...".[129]

Proposals of coffee purchases and money advances to Colombia sank because of the constraints imposed by the war. In the draft of a telegram from the Treasury to ambassador Paske-Smith it was expressed that "the Treasury do not feel able to agree to the Colombian £1,000,000 credit proposal and it is therefore clear that the present shortage of sterling in Colombia will rapidly become still more acute...H.M.G. regret that the exigencies of the war should compel to treat old and valued customer like Colombia in such an unfavourable way...".[130] The failure in finding the counteradvantages required for a definitive settlement with Colombia would postpone that final agreement for two years, at least with respect to the sterling debt of the national government.

iii) Proposals and final offer

The initial proposals of the Colombian government were associated with the possibility of using coffee as means of partial payment.[131] Similar proposals were made at the time by Brazil, which was not only the major world producer of coffee but the major Latin American debtor, most of her debt being of British origin. A concrete proposal discussed with the British negotiator in June 1940 suggested an immediate repayment of 20% of the total debt in Colombian coffee. The price would be determined according to current quotations for the debt and the Colombian coffee in London, granting a good margin for the bondholders.

Although the market value of the debt would be well below par, implying a reduction of the nominal value of capital, the transaction would be justifiable on the grounds of immediate settlement. The rest of the debt would be subject to a settlement similar to that offered to the U.S. bondholders.

The British negotiator argued that the terms of the proposal were inferior to those actually offered to the U.S. bondholders, and that no measure of recognition was being given to the fact that four out of five sterling loans were specifically secured.[132] Further initiatives of the minister of finance considered the possibility of making cash redemption offers, fixing the price of the debt somewhat above current quotations in London.[133] On the creditors side pressure was made in order to obtain a simultaneous settlement for both the national and the publicly guaranteed (AMB) debt. This proposition was discarded by the Colombian government which had separated the two settlements in the case of the dollar debt; only when a possible coffee agreement was under discussion, Colombia was willing to accept a simultaneous settlement.

The distinction between secured and unsecured loans, and therefore the practical recognition expected by the CFB on the secured loans, were of very "relative" importance for the Colombian government. According to the British negotiator, the minister of finance "looks at the guarantees as purely nominal -a relic of former days when it was customary to make such stipulations- and as meaningless because the government intends to comply faithfully with any settlement reached irrespective of any so called guarantees".[134]

What was the strategy of the CFB once the offer to the U.S. bondholders was a fait accompli? Did the "most favoured nation" clause contained in that settlement discourage the bargaining initiative of the CFB? The situation was not easy since the CFB was not in the position of getting a more favourable arrangement than that offered to the dollar bonds, but also a similar arrangement could be interpreted as a capitulation of the preferential claims of the specially secured loans. The CFB then became interested in a settlement which being similar to the

dollar debt agreement was not strictly comparable to it. In this movement the CFB came to coincide with some recent developments of the negotiations in Bogota. These were the above mentioned possibility of a cash redemption offer, and the suggestion of the British negotiator of overstamping the existing bonds without changing them for new bonds.

The proposal of the British negotiator had the merit of preserving all former characteristics of the bonds other than terms of payment. Therefore the formal guarantees attached to four of the five loans would not be altered. As expressed by Thompson, "if the finance minister really considers the guarantees are meaningless he could scarcely object to this and the bondholders would retain exactly the same advantage, for what it may be worth... This would be very different from restating the guarantees in a new conversion issue, because the Americans would immediately claim and the Council's object would be defeated...".[135] The idea of overstamping the bonds was presented by the negotiator to the minister as a method of covering the point of securing some preferential treatment for the guaranteed issues.[136]

Given these advances of the negotiations, the president of the CFB defined the desired settlement with Colombia on the following basis: First, future interest would be reduced by 50% as in the case of the dollar debt settlement. However, in contrast with the dollar settlement, the sterling loans should not be converted into a new loan, but overstamped. Second, interest arrears should be redeemed by cash, instead of being capitalized as in the dollar arrangement. How much could be asked for the nominal value of the arrears? Based on the dollar offer which recognized 50% of overdue interest and a market quotation of the dollar bonds of about 30%, a hypothetical cash redemption in the dollar loans case would have represented about 15% of the nominal value. Accordingly, the British negotiator could start asking 25%. Finally, the specific sinking fund of every individual loan should be replaced by an annual lump sum which would be applied on a certain basis between each loan.[137]

The CFB backed this desired formula but expressed that "the main objective should be to obtain a settlement...on terms no worse to those given to the direct dollar loans, and nothing should be done to jeopardise this".[138] Early in 1942 the minister of finance sent a formal proposal to the CFB in which some elements of the desired formula were integrated. The bonds of the old loans were to be overstamped to the effect of reducing future interests by 50%, the former sinking funds were to be replaced by a centralized cumulative sinking fund, and amortizations could be made by open market operations. However, no cash redemption of overdue interest was offered, and new 3% government bonds were offered for an amount equivalent to 50% of the value in arrears.[139] The British negotiator explained the absence of a cash offer from the proposal as a result of the fiscal difficulties endured by the government since the beginning of World War II.[140]

By May 1942 the minister of finance made a new and final offer for the settlement of fund arrears -50% for the nominal value overdue until the end of 1939 and 60% for interests unpaid since that date-. This amendment to the formal proposal sought to compensate British bondholders for the fact that their American counterparts were receiving interest payments since 1940.[141] The government officially projected the resumption of the service of the sterling external debt (July 2), and the CFB recommended the terms of the agreement to the bondholders as the "best obtainable". The minister of finance thought the CFB could have described the agreement as "equitable" or at least the efforts of the government could have been lauded. The CFB rejected to recommend the settlement on grounds of equity since "we have never disguised our view that prior and secured loans should have received better...treatment..." But also the CFB recognized the Colombian government's "desire to reach a settlement".[142]

The implementation of the sterling debt settlement was delayed until the beginning of 1944. Because of tight regulations in the London financial markets due to the war, there was some uncertainty about the possibility of effecting the open market operations anticipated in the agreement. Additionally, sterling bonds for the amount of £57,617 had been repatriated

during the years 1932-1933 but not cancelled; and depending on the facilities granted to the Colombian government for purchases in the London market, those bonds should be either cancelled or used for delivery in satisfaction of sinking fund payments. The British government although indicating that no exception to the general restrictions on sale of securities could be made, definitely intimated that "operations arising out of this agreement will receive their sanction".[143] More definitive reasons for the delay were associated with the change of government administration in Colombia (August 1942) and the fiscal crisis which absorbed government energies right through 1943. Finally, the offer was announced on January 6, 1944.

e. Settlement of the sterling debt of the Agricultural Mortgage Bank.

The AMB and the CFB started negotiations after the agreement on the national debt. The original intention was to reach a settlement on a similar basis to the offer made to the U.S. holders of the Bank's bonds. In practice, however, it was difficult to replicate that experience.[144] The minister of finance, then, offered a cash settlement in dollars or pesos, or both, basing calculations on the American offer and on the current quotations of the 3% government dollar bonds.[145] The British negotiator personally favoured either a cash settlement or the issue of entirely new bonds to be exchanged by the old Bank's issues.[146] The CFB rejected the initiative of a cash settlement, and suggested the alternative of overstamping the existing bonds.[147]

Although the nominal debt under negotiation amounted to £1,132,800 according to statistics provided by Fiscal Agents and the CFB, the Manager of the Bank revealed to the British negotiator that by the end of 1942 the balance was only £804,900, the difference of 29% being explained by repatriations made by the Bank between 1934 and 1942.[148] Early in 1944 (March 17), the CFB announced a plan for resumption of the debt service. Accordingly, the Colombian government would assume sole responsibility for principal and interest payments on the bonds the holders of which accepted the offer. It was offered to pay a capital cash

bonus of 5% of the nominal amount of assented bonds; as for future interests (since April 1942 to coincide with the American offer) it was offered to make cash payments at 3%; but also, the offer required the cancellation of 7 1/2 years of interest arrears. The formal offer was made on March 21, 1945.

In conclusion, the settlement of the sterling debt of the AMB did not follow suit the American example as it had been predicted. Under the new arrangement British bondholders surrendered 7 1/2 years of back interest in exchange for a capital cash bonus and the nationalization of the debt.

f. Settlement of the short-term debt with commercial banks

The short-term debt of the national government with commercial banks had a history of its own as seen in Section I.E above. The government contracted short-term debts with British and U.S. banks since 1928 which were subsequently renewed until 1930 when a U.S. bank syndicate headed by the National City Bank of New York took over the government debt. By then, the debt amounted to US$4.8 million. The syndicate extended a fresh loan for US$3.8 million in 1930, and two new loans for US$4 million each during 1931 after the syndicate was reinforced by Lazard Brothers of London and its subsidiary Lazard Fréres et Cie. of Paris. A total debt of US$16.9 million at 3% was successively renewed during the 1930s and the interest payments punctually served. Although there was no default on the service of this debt, and small amortizations were semiannually made, the continuous renewal of the contracts transformed an originally short-term obligation into a long-term debt.

The obligation with the bank syndicate represented about 21% of the dollar debt of the national government at the beginning of the 1940s, and the agreement reached in May 1942 established a new schedule for its amortization. It was determined that the balance at the beginning of 1943 -US$14.3 million- would be converted in 41 promissory notes which would be amortized quarterly until 1952 (Memoria de Hacienda, 1942).

3. Balance of the second round.

Colombia started the second round asking for additional concessions. To the positions defended during the first round, the concession of fresh loans was seen as a desirable component of a debt settlement. On the creditors side, a crucial change was the decisive intervention of the U.S. government and the displacement of the FBPC. Offers of settlement of the dollar denominated debt made by Colombian authorities were officially backed by the U.S. government while being openly opposed by the FBPC. It was the ultimate bondholders who finally decided the success of the Colombian offers.

Given their relative low interests in Colombia as compared with other countries in the region, British lenders adopted the strategy of getting no worse settlement than the U.S. bondholders. It was thought that a belligerent position in the Colombian case could have exacerbated the American aspirations in other cases such as in the Brazilian negotiations where the British had substantial interests. The strategy was changed, however, when the British realized that such a moderate position would not make any difference for other negotiations. Britain started an independent process of negotiation with Colombia looking for a settlement similar to that achieved by the Americans, but without resigning to the preferential treatment which characterized most of the British loans. In contrast with the dollar debt settlements, the sterling debt negotiations were directly carried out by Colombian authorities and representatives of the British bondholders.

At the end of the second round, Colombia had regularized the service of nearly 55% of the total external debt. A third round would be necessary to normalize the service of the remaining half of the external debt.

D. Third Round, 1944-1949

The settlement of the external debt of departments and municipalities (with the exception of Barranquilla whose settlement was negotiated in 1939) was reached between 1944 and 1949. To be more precise, only one debtor, the Municipality of Bogota, settled her debt in 1944, and the rest of municipalities and all the departments settle their debts between 1947 and 1949. The third round was a period of quick settlements rather than one of controversy about negotiating positions. These settlements were the last in a series of stages for the full restoration of the external debt service of the country which had been formally interrupted since the early 1930s. In quantitative terms, departments and municipalities (excepting Barranquilla) accounted for 51% of the dollar bonded debt, and 46% of the total external long-term debt of the country when negotiations started in the late 1930s. The reader will be introduced to the final negotiation of the external debt of the Municipality of Bogotá, and later on to the settlement of the debt of departments and municipalities still in default.

1. Settlement of the debt of the Municipality of Bogota

As seen in Table 48 above, the two loans floated by Bogota during the lending boom of the 1920s altogether amounted to US$8.7 million representing 23% of total loans floated by municipalities. After the suspension of debt service in 1932 the outstanding balance amounted to US$6.9 million. This was the official outstanding debt when initiatives of settlement were made in 1940 and 1944. In 1940 the Council of Bogota defined the grounds on which the debt service could be resumed; basically, they implied the cancellation of interest arrears, the conversion of existing dollar bonds into new peso bonds -at the rate of US$1=C$1, and the reduction of the interest rate for future payments to 3%.[149] The bondholders rejected the plan as "inadequate" and asked the FBPC to represent them in negotiations with the Municipality.[150]

On November 1944, Bogota made a formal offer to the bondholders. The City offered 3% bonds of the national government in exchange -par for par- of her original bonds. In this way the City expected to reduce the original average interest rate from 7.2% to 3%. The 3% bonds

in offer did not constitute a new issue; they were the same bonds offered by the national government in its settlement with U.S. bondholders in 1941, after being repurchased by Colombian authorities in the open market. Additionally, the City did not recognize interest arrears. This measure implied that 13 years' past due interest amounting to US$1,040 on each US$1,000 8% bond of the loan of 1924, and to US$834.5 on each US$1,000 6 1/2% bond of the loan of 1927, were cancelled.

Once more, the U.S. State Department and the FBPC published contrasting views. The former stated that "The offer marks a further stage of progress in resuming service on Colombian dollar bond indebtedness".[151] The latter asserted that "The Council was not consulted in regard to this offer, took no part in its discussion and cannot judge whether representations made in behalf of the bondholders would have affected the terms... While considering that unilateral offers by debtors and complete cancellations of past due interest are both unsound in principle, the Council can hold out no prospect of a better offer to the holders of the bonds of the City of Bogota".[152]

What was the reaction of bondholders? First it has to be noted that the amount of bonds to be exchanged was not US$6.9 million according to the official sources, but US$2.8 million according to the National City Bank of New York designated as Exchange Agent. The difference of US$4.1 million, equivalent to 60% of the official outstanding balance, is explained by repatriations made by the Municipality between 1933 and 1944 when the average quotations of bonds were most of the time below 20% according to Table 51 above. As for the process of exchange, by 1946 43% of the bonds in the hands of the public had been delivered to the National City Bank in acceptance of the offer.[153]

2. Settlement of the debt of departments and municipalities.

The last step in the process of settlement of the dollar external debt involved six departments and two cities. Although it was the last negotiation, the bargaining process itself was very

quick, and in contrast with previous definitive settlements of the dollar debt, it ended up with the mutual agreement between Colombian negotiators and the FBPC. By initiative of the Colombian government, negotiations took place in Bogota in April 1947. The negotiators representing the departments and cities were Esteban Jaramillo -the minister of finance under which default had been produced in 1932- and Carlos Lleras -the minister of finance under which the settlement of the national external debt had been achieved in the early 1940s-. On the other side of the negotiating table, the president of the FBPC, James Rogers, represented the bondholders.

The negotiators rapidly converged to a conversion formula which implied the issuance of new bonds by the original debtors, with the guarantee of the national government. It was agreed that 20% of interest arrears would be capitalized, and the new interest rate for future payments would be 3%.[154] An immediate statement of the FBPC considered the terms proposed as "reasonable and fair".[155] By 1947 legal procedures in Colombia had been completed but further actions in the United States delayed the formal offer until 1949. Once more the FBPC recommended the acceptance of the offer.[156]

How quickly did bondholders accept the offer? The success of the acceptance of the exchange offer is illustrated by the fact that by December 31, 1949 -only one month after the official offer was made- 31% of the amount subject to the offer had been exchanged. By December 1931 1950, the percentage of exchange had been 77%.[157] Apart from this success, it has to be noted that the amount subject to exchange was not that suggested by the statistics published either by Colombian official institutions or by fiscal agents in the United States. According to these sources, the outstanding balance when negotiations started was of US$73.4 million. More even, this was the amount of debt considered in the discussions between the Colombian negotiators and the president of the FBPC which led to the plan of settlement. The FBPC, however, announced that "it is believed that purchases have reduced the total amount held by the public to a figure in the neighborhood of US$40,000,000".[158] In

the light of this statement it was being revealed that bonds for about US$33.4 million had been repatriated by departments and municipalities during the period of default.

By the time the formal offer was made, it was divulged that the accurate outstanding balance was US$34.0 million instead of the official amount of US$73.4 million. This revelation meant that 54% of the amount outstanding in 1932 had been purchased in open market by the six departments and two municipalities involved. As suggested by Table 51 above, the six departments repurchased their bonds at prices ranging between US$4.62 to US$46.00 per US$100 bond, and the two cities repurchased their bonds at prices ranging between US$6.13 and US$45.00 per US$100 bond. Table 53 shows the distribution of repatriations between individual departments and municipalities.

TABLE 53
EXTERNAL DEBT OF SIX DEPARTMENTS AND TWO CITIES
PARTICIPANTS IN THE SETTLEMENT OF 1947 - 1949
(Thousands of U.S. dollars)

Debtors and Loans	Original Issue	Amortizations up to 1932	Outstanding Balance 1932	Repatriations 1933-1946	Outstanding Balance 1946
I. DEPARTMENTS					
Antioquia, 7% 1925	20,000.0	2,828.0	17,172.0	9,633.4	7,538.6
Antioquia, 7% 1927	12,350.0	843.0	11,507.0	6,684.0	4,823.0
Caldas, 7 1/2% 1926	10,000.0	1,409.0	8,591.0	3,979.0	4,612.0
Cundinamarca, 6 1/2% 1928	12,000.0	463.0	11,537.0	6,597.0	4,940.0
Santander, 7% 1928	2,000.0	209.0	1,791.0	548.0	1,243.0
Valle del Cauca, 7 1/2% 1926	4,000.0	591.5	3,408.5	1,281.0	2,127.5
Valle del Cauca, 7% 1928	4,500.0	635.0	3,865.0	1,667.0	2,198.0
Tolima, 7% 1927	2,500.0	388.0	2,112.0	1,212.0	900.0
TOTAL	67,350.0	7,366.5	59,983.5	31,601.4	28,382.1
II. Municipalities					
Cali, 7% 1927	2,885.0	477.0	2,408.0	1,357.5	1,050.5
Medellin, 7% 1926	3,000.0	356.0	2,644.0	1,315.0	1,329.0
Medellin, 6 1/2% 1928	9,000.0	622.0	8,378.0	5,119.0	3,259.0
TOTAL	14,885.0	1,455.0	13,430.0	7,791.5	5,638.5
GRAND TOTAL	82,235.0	8,821.5	73,413.5	39,392.9	34,020.6

SOURCE:
Based on FBPC (1949).

Total repatriations turned out to be distributed in proportion to the respective outstanding balances, with departments accounting for about 80%. Additionally, while departments bought back some 53% of their own debt, the corresponding figure for municipalities was 58%. Among the departments, Antioquia alone explained over a half of buybacks, and Medellin alone accounted for 83% of municipal repurchases. Given the position of Medellin as capital of Antioquia, it is possible to conclude that 58% of buybacks were originated in this region of the country.

In sum, the settlement of the external debt of departments and municipalities dominated the third round. Although the negotiation itself was a swift process, it took place only in the late 1940s when the settlements of the national and corporate debt had been fully accepted. In contrast with the two previous rounds there was not astringent confrontation of points of view, and for the first time it was possible for the government and the FBPC to reach an agreement. Debtors obtained new concessions in this negotiation without provoking the strong disapproval of the FBPC as it happened at the beginning of the decade.

E. Looking back.

If default on the long-term Colombian external debt was a gradual process (Section II.C of this part), renegotiations proved to be a complex task which required a decade and a half to be completed.

The loan contracts signed by Colombian debtors with British and U.S. investors were renegotiated through a variety of forms, not all resulting from a formal bargaining in a negotiating table. Bond repatriations at depreciated prices are a good example. Some of them were pre-announced buybacks, such as the repatriations carried out by the national government in 1932 to facilitate the repayment of private debts to the banking system. Some others were "secret" buybacks, such as the repatriations made by Departments and

Municipalities. Finally, some settlements reached in the negotiating table included open market bond purchases at depreciated prices.

Actual renegotiations differed according to individual loan contracts. There were cases of partial or total forgiveness of interest arrears, and agreements about reduction of contractual interest rates. A few agreements involved partial cash repayments in either foreign currency or Colombian pesos, and also conversions of foreign currency denominated bonds into Colombian peso bonds. There were also bargaining situations in which the possibility of new loans was considered alongside the formalization of agreements.

Overall, buybacks were the main form of renegotiation before firm discussions started in the late 1930s. Altogether, Departments and Municipalities (which represented one half of the long-term external public debt in default by 1933) repatriated one half of their external debt at depreciated prices. Common results of the bargaining process were the rescheduling of debts, and the reduction of the contractual interest rates by 50%. Characteristically, the recontracting process between creditors and debtors did not yield any write down of contractual debt principals.

The Colombian experience is illustrative of the complexity of negotiations and the influence of governments of creditor countries on final agreements. Strategies on the creditors'side were affected by tensions among representatives of investors, and some settlements reflected the presence of those conflicts. Considerations of international politics also affected the final outcome of negotiations. The U.S. government decisively intervened in the bargaining process to the point of partially displacing the creditors' representatives from the negotiating table. Interestingly, the dollar debt of the national government was settled amidst the open support of the U.S. government and the strong opposition of the creditors' representatives.

The renegotiation of the Colombian external debt over the 1934-49 period became an integral part of the long-term relationship between Colombian debtors and their foreign creditors. It

was the last renegotiation of British long-term loans for over a century, and the first renegotiation of U.S. private long-term loans. Regarding the sterling debt, it was the last link of a chain of formal contracts, defaults and renegotiations through the whole period of Pax Britannica. As for the dollar debt, the recontracting process restablished the relationship between creditors and debtors after the suspension of debt service in the early 1930s.

In the process of writing this section we constructed new series of the Colombia's external debt for the period 1923-1950, which largely coincides with the period under discussion in this part of the thesis. The new series differ from previous ones by explicitly considering defaults, repatriations and agreements. The detailed reconstruction of the series is presented in the appendix to the section.

APPENDIX

The accountancy of defaults, repatriations, and settlements.

Defaults, buybacks and bond conversions affected the accountancy of loans. In most cases the magnitude of repatriations was not revealed until final offers for the resumption of debt service were made; and in the few cases where repatriations were known, the corresponding amounts were not reported or at least not cancelled by Fiscal Agents in New York and London. As a result, the information offered by Fiscal Agents about outstanding balances of loans was, for many years, the same published before the suspension of the debt service. The case of the six departments and two municipalities which settled their debts in 1949 is illustrative; for seventeen years Colombian authorities, foreign fiscal agents and representatives of the bondholders, continuously published the outstanding balances

corresponding to 1932. Even worse, some original agents failed to reconcile their records well into the 1950s.[159]

In this appendix we attempt to offer new series of the Colombian external debt taking in account changes due to buybacks and conversions. With some exceptions, it was not possible to discriminate repatriations year by year, and therefore we had to distribute equally a certain amount of buybacks within a period. In most cases individual loans are revised separately, and later on aggregated in order to obtain a revised series of the total external debt. This revision covers the period 1923-1950 which coincides with the last boom and decline of international bonded debts.

1. National government

a. Dollar debt

Table 54 summarizes the experience with the two most important dollar loans to the national government. It shows normal amortizations before default in 1933 as well as the open market purchases carried out during 1932-33. As seen in Section II.B.2 these repatriations were made as part of the measures to rescue the financial sector after the great depression. Commercial banks were authorized by government decree (Decree 711 of 1932) to receive external bonds from coffee growers and other debtors in partial payment for credits affected by the international deflation. Then, the national government received these bonds from the banks in exchange for bonds of the internal debt; the amount of 1927 and 1928 bonds actually received by the government is shown in the table. According to Colombian authorities, the U.S. Securities and Exchange Commission was informed of these facts (note 99 of this section). In 1940, as part of the Provisional Agreement, the government offered to present for cancellation and retirement the bonds held since 1932-33 (US$5,997,500).

TABLE 54

NATIONAL GOVERNMENT DOLLAR LOANS OF 1927 AND 1928

AMORTIZATIONS AND SETTLEMENTS

1. 6% 1927 Loan

Issued		25,000,000
Less: Amortizations before default		3,795,000
Period December 1927-July 1931	1,829,000	
1932	-	
January 1933	1,966,000	
Outstanding balance after default		21,205,000
Less: Open market purchases (Decree 711, 1932)		2,292,000
Outstanding balance at the end of 1933		18,913,000
Less: Open market purchases (Provisional Agreement, 1940)		639,500
Outstanding balance at the end of 1940		18,273,500

2. 6% 1928 Loan

Issued		35,000,000
Less: Amortizations before default		4,981,500
Period October 1928-October 1931	2,308,500	
April 1932	-	
October 1932	2,079,500	
April 1933	593,500	
Outstanding balance after default		30,018,500
Less: Open market purchases (Decree 711, 1932)		3,705,500
Outstanding balance at the end of 1933		26,313,000
Less: Open market purchases (Provisional Agreement, 1940)		870,000
Outstanding balance at the end of 1940		25,443,000

3. Exchange of Old 6% 1927 and 1928 bonds for New 3% 1940 bonds

Period	Initial Balance	Old Bond Changes	New Bond Issues	Open Market Purchases	Effective Retirements	Final Balance
1941-1945	43,716,500	38,521,000	43,841,000	4,116,500	-1,203,500	44,920,000
1946-1950	44,920,000	4,029,000	4,681,500	7,539,500	6,887,000	38,033,000
Total		42,550,000	48,522,500	11,656,000	5,683,500	

SOURCE.
FBPC, annual reports between 1939 and 1950.

New open market purchases were carried out in 1940 in fulfillment of the Provisional Agreement between the national government and the FBPC. This time repatriations amounted to one-fourth of the nominal amount repurchased in 1932-33. In 1932-33 the government bought back its bonds at prices ranging from US$13.50 to US$49.50 per US$100 bond; in 1940, prices fluctuated between US$15.70 and US$34.00 per US$100.00 bond (Table 51 above). Since the average price for the 1940's buybacks was 26.5% -US$400,000 were enough to buy back US$1,509,000 bond- and given the price range for the 1932-33 purchases, it is possible to adventure that by means of these repatriations the government obtained a reduction of at least 70% on the nominal value of 15% of the outstanding balance after default.

The process of bond conversion after the definitive offer of June 1941 is shown at the bottom of Table 54. As seen, about 88% of old bonds were presented by their holders to be exchanged by the new bonds during the first four years of the offer. This public reaction implied the success of an offer which was strongly rejected by the FBPC. It can also be seen how the government repurchased 25% of the new bonds in open market, along the 1940s. These new buybacks meant further reductions compared with the nominal value of the outstanding debt. Although market quotations increased rapidly during the decade, the government could still obtain substantial reductions in terms of the par value of the debt.[160] Finally, it can be remembered that these buybacks of 3% bonds were used in exchange for old bonds of the AMB, as well as for old bonds of the City of Bogota.

Table 55 shows final series for the 6% 1927 and the 6% 1928 loans. It also presents series for the new 3% 1940 bonds, and for the convertible certificates for 3% 1940 bonds. These certificates were issued to holders of coupons of unpaid interest corresponding to the 6% 1927 and 6% 1928 bonds. The authorized issue of these certificates reached the amount of US$6,283,500 equivalent to 50% of past due interest. Holders were entitled to exchange these certificates for like amounts of 3% 1940 bonds, on or before December 31, 1945. As

seen, no outstanding balance existed by 1946. Table 56 shows the series for the 1933 Deferred Interest Certificates, and for the 4% Funding Certificates of 1934.

TABLE 55

NATIONAL GOVERNMENT EXTERNAL DEBT

1927 AND 1928 LOANS AND CONVERSIONS
PERIOD 1927 - 1950

(US Dollars)

YEAR	1927 6% Loan	1928 6% Loan	1940 3% Bonds	1940 Convertible Certificates
1927	24,750,000			
1928	24,355,250	34,670,214		
1929	23,960,500	34,016,643		
1930	23,565,750	33,351,072		
1931	23,171,000	32,691,500		
1932	22,025,000	28,759,250		
1933	18,913,000	26,313,000		
1934	18,913,000	26,313,000		
1935	18,913,000	26,313,000		
1936	18,913,000	26,313,000		
1937	18,913,000	26,313,000		
1938	18,913,000	26,313,000		
1939	18,913,000	26,313,000		
1940	18,273,500	25,443,000		
1941	10,126,500	13,710,500	22,238,500	380,070
1942	4,475,000	5,715,500	36,396,000	387,383
1943	3,443,500	4,035,500	38,637,500	350,748
1944	3,009,500	3,149,000	39,394,000	243,505
1945	2,649,000	2,546,500	39,724,500	216,205
1946	2,128,000	2,008,500	39,875,500	-
1947	1,260,500	1,438,500	40,356,500	
1948	922,500	954,500	39,634,000	
1949	713,500	713,000	38,232,500	
1950	600,500	566,000	36,866,500	

SOURCES.

1927 6% Loan

1927: The payment of the contribution to the sinking fund (1% of the total issue) is assumed and deducted from the original loan. 1928 through 1931: amortizations of bonds for US$1,829,000. Informe del Contralor (1937). This amount is divided in four equal payments during the period. No amortizations in 1932. However, in accordance with the Decree 711 of 1932 the government repatriated US$2,292,000 during

1932 and 1933. This amount is equally divided for each year. Additionally, a large block of bonds (US$1,966,000) was acquired in January 1933 and reported to the Fiscal Agents. Informe del Contralor (1937) and the Stock Exchange Yearbook (London, 1933). 1934 through 1939: no amortizations. 1940: Open market purchases for US$639,500 in accordance to the Decree 305 of 1940. 1941 through 1950: balance of exchanges for new 1940 3% bonds. FBPC, annual reports between 1941 and 1950.

1928 6% Loan

The government amortized US$2,308,500 between October 1928 and October 1931. Informe del Contralor (1937). Dividing this amount in 7 payments gives the data for 1928 through 1931. In October 1932 and April 1933 the government acquired large blocks of bonds for US$2,079,500 and US$593,500 correspondingly. Informe del Contralor, 1937. These bonds were delivered to the Fiscal Agents to be credited to the sinking fund. The Stock Exchange Yearbook (London). Additionally, in accordance to the Decree 711 of 1932 the government purchased US$3,705,500 in the open market during 1932-1933. 1934 through 1939: no amortizations. 1940: open market purchases according to the Decree 305 of 1940, reaching the amount of US$870,000. 1941 through 1950: balance of exchanges for new 1940 3% bonds. 1940 3% Bonds. FBPC, Annual Reports.

1940 Convertible Certificates. FBPC, Annual Reports

TABLE 56
NATIONAL GOVERNMENT EXTERNAL DEBT
U.S. SCRIPS OF 1933 AND 1934
(US Dollars)

YEAR	SCRIP 1933	SCRIP 1934
1933	1,788,868	-
1934	1,086,428	3,739,665
1935	724,285	3,354,672
1936	362,142	3,354,672
1937	59,644	3,043,310
1938	-	2,616,030
1939		2,241,305
1940		1,936,825
1941		1,758,688
1942		1,571,773
1943		1,450,245
1944		1,376,848
1945		1,235,587
1946		-

SOURCES.

SCRIP 1933.

1933: Scrips issued by the national government for US$1,448,570 and by the Agricultural Mortgage Bank (AMB) for US$340,298. Total issued, US$1,788,868. Informe del Contralor (1937). 1934: 1/4 of the national government scrip plus full amortization of the AMB scrip. 1935-1936: 1/4 of the national government scrip each year. 1937: balance due in 1937. Informe del Contralor (1937).

SCRIP 1934.

1934: national government scrip for US$3,073,410 plus AMB scrip for US$666,255. Informe del Contralor (1937). 1935: amortization of US$384,992 by the Bank. No amortizations in 1936. 1937: amortization of US$30,100 by the government and the balance due by the Bank, US$281,262. Informe del Contralor, 1937. 1938: The Stock Exchange Yearbook (London). 1939 through 1946: FBPC, annual reports.

The series so far illustrate the experience with private long-term foreign financing. The single case of access of the Colombian government to commercial bank foreign lending was that of the 1931 loan with a banking group headed by the National City Bank of New York. As explained before, although this was a short-term one-year credit, it was extended from time to time and finally renegotiated in 1942. Table 57, column 8 shows the series of outstanding balances of the credit, which appear to be progressively amortized since 1942. Another source of unfunded debt were some American and French companies involved in construction work; the outstanding balances with the undertakers are also shown in Table 57, column 9. Finally, the table shows the first years of access of the national government to foreign official financing through the credit of the Ex-Im Bank.

The evolution of dollar loans is summarized in Table 57. The long-term bonded debt which represented about 75% in 1933 lost part of its predominance to the investment credits extended by the Ex-Im Bank during the 1940s. By 1950, the bonded debt amounted to 58% of the total. This still prevailing figure would continuously recede during the ensuing decades.

b. Sterling debt

TABLE 57

NATIONAL GOVERNMENT EXTERNAL DEBT
ANNUAL BALANCES OF US LOANS
PERIOD 1923 - 1950

(Millions of U.S. dollars)

YEAR	(1) BONDS 1927	(2) BONDS 1928	(3) SCRIP 1933	(4) SCRIP 1934	(5) CONVERT. CERTIF.	(6) BONDS 1940	(7) BLAIR'S LOAN	(8) BANKS' LOANS	(9) SUPPLIERS' CREDIT	(10) EX-IM BANK	(11) TOTAL
1923							4.8				4.8
1924							3.4				3.4
1925							3.1				3.1
1926							1.3				1.3
1927	24.8										24.8
1928	24.4	34.7						1.9			61
1929	24	34						4.8			62.8
1930	23.6	33.3						4.9			61.8
1931	23.2	32.7						16.7			72.6
1932	22.1	28.8						16.7			67.6
1933	18.9	26.3	1.8					16.7			63.7
1934	18.9	26.3	1.1	3.7				16.7			66.7
1935	18.9	26.3	0.7	3.4				18.7	2.8		70.8
1936	18.9	26.3	0.4	3.4				17.1	2.6		68.7
1937	18.9	26.3		3				16.3	2.4		66.9
1938	18.9	26.3		2.6				15.2	4.5		67.5
1939	18.9	26.3		2.2				14.9	5.6		67.9
1940	18.3	25.4		1.9				14.7	5.8		66.1
1941	10.1	13.7		1.8	0.4	22.2		14.5	4.3		67
1942	4.5	5.7		1.6	0.4	36.4		14.3	4.5	5.3	72.7
1943	3.4	4		1.5	0.3	38.6		13.9	3.7	8.6	74
1944	3	3.1		1.4	0.2	39.4		13.4	2.9	8.7	72.1

1945	2.6	2.5	1.2	0.2	39.7	12.8	2	13.7	74.7
1946	2.1	2			39.9	12	1.3	16.2	73.5
1947	1.3	1.4			40.4	11.2	1.7	14.5	70.5
1948	0.9	0.9			39.6	10.2	2.8	17.8	72.2
1949	0.7	0.7			38.2	9.4	2.1	15.7	66.8
1950	0.6	0.6			36.9	8	1.8	17.5	65.4

NOTES.
The National Government accumulated interest arrears during the period of default. According to the Informe del Contralor the balances on arrears were as follows in millions of US dollars: 14.5 for 1936; 21.6 for 1937; 27.7 for 1938; 19.5 for 1939; 10.3 for 1940; 10.8 for 1941; and 7.3 for 1942.

SOURCES.
For columns (1) to (6), Tables 55 and 56. For the remaining columns, Informe Financiero del Contralor, Annual Report.

The outstanding balances of the sterling debt of the national government are presented in Table 58. As explained before, the 1942 agreement did not imply the exchange of the old for new bonds, and therefore the old issues were amortized right through the 1940s -as shown in the table- and during the next decades up to their complete amortization during the 1970s. The consolidated external debt of 1896 was redeemed in 1931 (July); the service of this loan had been punctually paid since 1905.

The repatriation of sterling loans after the extraordinary measures of 1932 and 1933 to rescue the financial system, amounted to £57,617, some 4% of the outstanding debt in 1931. The bonds repatriated by the government were delivered to Lazard Brothers (London) but only cancelled after the 1942 settlement. Buybacks were unequally distributed by individual loans (See Sources of Table 58) with 47% of purchases concentrated on the 1911 loan. Although the information about bond prices for these bonds (Table 50) is incomplete, it appears that at least during 1932 repatriations were made with a discount of over 50% of the par prices of the bonds. Finally, Table 58 also shows the series for the Scrips of 1933 and 1934, and the outstanding balances of the Funding Stock issued in 1942 in payment for a fraction of interest arrears.

c. Departments and Municipalities

Table 59 summarizes the evolution of the external debt of the six departments which floated loans in the United States during the 1920s. As mentioned before, departments repatriated 53% of the outstanding balance in 1932 during the period 1933-1946. Due to lack of more specific information, the whole amount of buybacks unveiled during the negotiations of 1947-1949 was evenly distributed along the period. As for Municipalities, the table shows aggregate data for the period before formal default in 1932, and individual information from then on. The information about repatriations by Cali and Medellin was treated in a way similar to that of the six departments. Specific aspects about repatriations by Bogota, and settlement plans by Barranquilla are mentioned in the methodological note to the table.

TABLE 58

NATIONAL GOVERNMENT EXTERNAL DEBT

ANNUAL BALANCES OF STERLING LOANS

PERIOD 1924 - 1950

YEAR	1896 * £	1906 £	1911 £	1913 £	1916 £	1920 £	SCRIP 1933 £	SCRIP 1934 £	SCRIP 1942 £	TOTAL £	TOTAL US$
1924										3,321,976	15,600,000
1925	912,000	163,200	202,940	1,102,780	58,400	399,920				2,839,420	13,767,475
1926	771,300	150,200	191,060	1,058,745	56,580	384,620				2,612,505	12,673,262
1927	555,900	138,000	179,160	1,035,920	54,710	384,620				2,348,310	11,466,798
1928	404,600	125,620	165,800	967,712	53,910	368,320				2,085,962	10,150,291
1929	246,700	113,290	151,720	917,791	51,450	359,320				1,840,271	8,938,196
1930	81,900	100,960	137,640	863,576	49,780	349,440				1,583,296	7,697,985
1931		79,840	122,560	805,790	47,350	337,140				1,392,680	6,767,032
1932		74,570	109,030	801,629	44,565	332,257				1,362,051	4,772,626
1933		69,300	95,500	797,468	41,780	329,194	86,309			1,419,551	5,987,666
1934		69,300	95,500	797,468	41,780	329,194	86,309	155,893		1,575,444	7,941,813
1935		69,300	95,500	797,468	41,780	329,194	69,527	155,893		1,558,662	7,642,120
1936		69,300	95,500	797,468	41,780	329,194	65,733	142,630		1,541,605	7,663,318
1937		69,300	95,500	797,468	41,780	329,194	-	142,630		1,475,872	7,296,711
1938		69,300	95,500	797,468	41,780	329,194		142,630		1,475,872	7,217,014
1939		69,300	95,500	797,468	41,780	329,194		113,322		1,446,564	6,759,793
1940		69,300	95,500	797,468	41,780	329,194		107,249		1,440,491	5,805,178
1941		69,300	95,500	797,468	41,780	329,194		107,249		1,440,491	5,805,178
1942		69,300	95,500	797,468	41,780	329,194		105,252		1,438,494	5,797,130
1943		69,300	95,500	797,468	41,780	329,194		94,830		1,428,072	5,755,130
1944		69,300	95,500	777,466	41,050	315,140		92,749	294,894	1,686,099	6,794,979
1945		69,300	95,500	773,123	37,880	310,640		91,362	273,658	1,651,463	6,655,396
1946		69,300	95,500	773,123	37,880	310,640		-	253,507	1,539,950	6,205,999
1947		69,300	93,360	765,096	37,180	304,300			243,060	1,512,296	6,094,553

1948	69,300	93,360	755,277	37,180	296,120	240,056	1,491,293	6,009,911
1949	67,600	90,180	731,425	34,460	278,500	221,455	1,423,620	3,986,136
1950	64,980	88,520	714,650	33,000	265,880	213,554	1,380,584	3,865,635

* Consolidated external debt of 1896.

SOURCES.

1924: Informe del Contralor. 1925-29: London Stock Exchange Yearbook. Figures for the 1906 and 1911 loans in 1929 are averages for 1928-30. 1930-31: CFB. 1932-33: Repatriations of bonds in accordance to Decree 711 of 1932 (1906 loan, £10,540; 1911 loan, £27,060; 1913 loan, £8,321; 1916 loan, £5,570; 1920 loan, £6,126. Total of loans repatriated, £57,617). These repatriations are equally divided within the two years. Additionally, an amortization of £1,829 of the 1920 loan in 1932. Memoria de Hacienda (1942). 1943-44: The Stock Exchange Yearbook (London). 1945-50: CFB.

SCRIP 1933.
1933: Scrip issued by the national government for £36,272 plus the scrip issued by the AMB for £50,037. Informe del Contralor, 1937. 1934-37: The Stock Exchange Yearbook (London).

SCRIP 1934.
1934: Scrips issued by the national government for £82,261 and by the AMB for £73,632. Informe del Contralor, 1937. 1935: no amortizations. 1936: £13,263 amortized by the Bank. Informe del Contralor (1937). 1937: the government acquired £8,230 without cancellation leaving the balance unmodified. 1938-46: The Stock Exchange Yearbook. It seems that the government was purchasing certificates without cancellation during the period 1937-46. The minister of finance reports balances of £74,031 in 1941 and £51,480 in 1942. Memoria de Hacienda, 1942.

SCRIP 1942: CFB.

TABLE 59

EXTERNAL DEBT OF DEPARTMENTS AND MUNICIPALITIES.

PERIOD 1923 - 1950

(US Dollars)

YEAR	TOTAL DEPARTMENTS	MEDELLIN	CALI	BOGOTA	BARRANQUILLA	TOTAL MUNICIPALITIES
1923						3,000,000
1924						8,969,500
1925	2,962,500					9,724,835
1926	27,131,800					12,939,222
1927	40,938,100					17,303,425
1928	63,496,563					24,008,075
1929	66,186,118					24,097,905
1930	64,417,470					23,996,164
1931	63,051.975					23,361,345
1932	59,973,000	11,013,383	2,406,117	6,939,500	1,780,400	22,139,400
1933	57,716,507	10,554,427	2,309,387	6,594,542	1,780,400	21,238,756
1934	55,460,014	10,095,471	2,212,457	6,249,584	1,780,400	20,337,912
1935	53,203,521	9,636,515	2,115,627	5,904,626	1,780,400	19,437,168
1936	50,947,028	9,177,559	2,018,797	5,559,668	1,780,400	18,536,424
1937	48,690,535	8,718,603	1,921,967	5,214,710	1,780,400	17,635,680
1938	46,434,042	8,259,647	1,825,637	4,869,752	1,780,400	16,735,436
1939	44,177,549	7,800,691	1,728,307	4,524,794	1,780,400	15,834,192
1940	41,921,056	7,341,735	1,631,477	4,179,836	2,049,256	15,202,304
1941	39,664,563	6,882,779	1,534,647	3,834,878	1,987,651	14,239,955
1942	37,408,070	6,423,823	1,437,817	3,489,920	1,981,200	13,332,760
1943	35,151,577	5,964,867	1,340,987	3,144,962	1,890,600	12,341,416
1944	32,895,084	5,505,911	1,244,157	2,800,000	1,806,800	11,357,668
1945	30,638,591	5,046,955	1,147,327	2,200,000	1,719,800	10,114,082
1946	28,382,100	4,588,000	1,050,500	1,600,000	1,624,400	8,862,900

1947	28,382,100	4,588,000	1,050,500	1,191,500	1,514,500	8,344,000
1948	28,382,100	4,588,000	1,050,500	992,000	1,410,700	8,041,200
1949	30,248,900	4,807,200	1,102,400	831,000	1,304,400	8,045,000
1950	31,685,500	5,059,300	1,165,300	638,500	1,186,100	8,049,200

SOURCES.
Departments.
1925-1931: The South American Journal. February 4, 1933. 1932: Prospectus of agreement quoted by the FBPC, 1949. 1933-1946: repatriation of bonds. The whole amount reported in the prospectus is equally distributed along the period. 1947-1950: FBPC, annual reports.

Municipalities.
1923-1931: The South American Journal. February 4, 1933.
Bogota.
1932:FBPC (1944)
1944: According to the exchange agent under the offer of settlement made by Bogota in late 1944 "less than US$2,800,000 are in the hands of the public ..."FBPC (1944), p.293. This amount is applied to 1944. 1933-1943: repatriations for US$4,139,500 equally distributed over time. 1945: the balance for this year is obtained by equally distributing the exchanges effected during 1945 and 1946. 1946-1950: FBPC, annual report.
Barranquilla.
1932-1939: Outstanding balance after default in 1932. FBPC, annual reports.
1940: Principal due on old series, US$653,856, plus the new issue for US$1,395,400. FBPC (1944). 1941-1950: FBPC, annual reports.
Cali-Medellin.
1932 and 1946: Prospectus of agreement between Colombian representatives and the president of the FBPC. FBPC (1949). 1933-1945: repatriation of bonds. The whole amount reported in the prospectus is equally distributed along the period. FBPC (1949).

d. External Public Debt

Table 60 presents a series of the total external public debt for the period 1924-1950.

TABLE 60

EXTERNAL PUBLIC DEBT
NATIONAL GOVERNMENT, DEPARTMENTS AND MUNICIPALITIES
1923 - 1950

(Millions of US dollars)

	NATIONAL	DEPARTMENTAL	MUNICIPAL	TOTAL
1923			3.0	3.0
1924	19.9		9.0	28.9
1925	16.9	3.0	9.7	29.6
1926	14.0	27.1	12.9	54.0
1927	36.3	40.9	17.3	94.5
1928	71.2	63.5	24.0	158.7
1929	71.7	66.2	24.1	162.0
1930	69.5	64.4	24.0	157.9
1931	79.4	63.1	23.4	165.9
1932	72.4	59.9	22.1	154.4
1933	69.7	57.7	21.2	148.6
1934	74.6	55.5	20.3	150.4
1935	78.4	53.2	19.4	151.0
1936	76.4	50.9	18.5	145.8
1937	74.2	48.7	17.6	140.5
1938	74.7	46.4	16.7	137.8
1939	74.7	44.2	15.8	134.7
1940	71.9	41.9	15.2	129.0
1941	72.8	39.7	14.2	126.7
1942	78.5	37.4	13.3	129.2
1943	79.8	35.2	12.3	127.3
1944	78.9	32.9	11.4	123.2
1945	81.4	30.6	10.1	122.1
1946	79.7	28.4	8.9	117.0
1947	76.6	28.4	8.3	113.3
1948	78.2	28.4	8.0	114.6
1949	70.8	30.2	8.0	109.0
1950	69.3	31.7	8.0	109.0

SOURCES.
Tables 57 and 59 above.

The series of total external public debt in Table 60 takes into account the repatriations and conversions of individual loans mentioned above. Figures indicate that the external public

debt fell by 20% between 1932 -when most individual defaults happened- and 1942, when settlements referring to the national debt were completed, or by 30% also between 1932 and 1949 when the settlements for the political subdivisions were achieved. Since the national debt remained relatively constant along the period, the decline in the total external public debt is explained by the repatriations carried out by departments and municipalities.

In the case of the national debt, the credits received from the Ex-Im Bank offset the amortizations of bonds effected through open market purchases after the final offers. Additionally, it has to be noted that the process of amortization of national government 3% bonds was slowed down by the fact that bonds bought back in the open market were used again to exchange old bonds of the mortgage banks and the City of Bogota.

e. Mortgage Bank Debt

Table 61 shows the series of outstanding balances of the mortgage loans floated in the U.S. markets between 1926 and 1928. Series are discriminated according to the criterion of public guarantee. Only the bonds sold by the AMB were publicly guaranteed. Nonguaranteed bonds were floated by the Mortgage Bank of Colombia, the Mortgage Bank of Bogota, and the Bank of Colombia, in that order of importance (Table 27 above). Repatriations played an important role in the amortization of these loans. In our discussion of the first round of negotiations, we anticipated that 52% of the outstanding balances of these loans in 1935 had been repatriated by 1942 when offers of settlement were made to the bondholders.

The table gives new information about buybacks. Although sinking fund payments were suspended early in 1932, there was a decline of 17% of the outstanding balances of the AMB between the end of 1931 and the end of 1933, coinciding with the decrees which stimulated the repatriation of bonds to solve the crisis of the financial sector. Considering the whole period between default (end of 1931) and settlement (1942), total repatriations by the AMB

and the other banks amounted to 65% of their outstanding balances in 1931; for the AMB the relevant figure was 59%, and for the rest of the banks the percentage arrived to 70%.

TABLE 61

MORTGAGE BANK BONDS
DOLLAR DEBT
PERIOD 1926 - 1950

	AGRICULTURAL MORTGAGE BANK	NON-GUARANTEED BANK DEBT	TOTAL
1926	2887374	5774276	8661650
1927	10696248	20136105	30832353
1928	15268122	20582372	43611764
1929	14761000	20593498	51671104
1930	14010500	20058930	50176263
1931	13065500	18170820	47148573
1932	12204000	16732115	39938325
1933	10813500	15293410	38317176
1934	10306500	13854705	38560655
1935	10288500	12416000	36531127
1936	9593000	11430715	34860996
1937	8897500	10445430	32924929
1938	8202000	9460145	26395963
1939	7506500	8474860	24427388
1940	6811000	7489575	22011946
1941	6115500	6504290	20184336
1942	5420000	5519000	18354627
1943	4328375	4544000	16127547
1944	3236750	3569000	13817249
1945	2145125	2594000	11510911
1946	1053500	1619000	9360059
1947	807500	1272500	8473663
1948	623500	940000	7932044
1949	527500	791000	6252123
1950	425000	636000	5833092

SOURCES.

Agricultural Mortgage Bank
1926-1929: The Stock Exchange Yearbook (London), annual issues. 1930-1935: CFB, annual reports. 1942: FBPC (1944). 1936-1941: the difference between the balances in 1935 and 1942 is divided into equal amounts along the interim years. 1946-1950: exchanges of bonds originally issued by the bank for 1940 3% bonds of the national government. FBPC, annual reports. 1943-1945: it is assumed that the difference between 1942 and 1946 corresponded entirely to exchanges for new 3% bonds of the national government.

Non-Guaranteed debt.
1926-1931: estimates worked out as the difference between total bank loans (South American Journal, February 4 1933) and loans floated in New York by the AMB, and by all the banks in

Europe. 1932-1934: the difference between the balances in 1931 and 1935 is equally divided along the period. 1935: FBPC (1944). 1936-1942: repatriation of US$6,897,000 which is equally divided along the period. 1942: FBPC (1944). 1943-1945, and 1946-1950, as for the AMB above.

Finally, the rapidly declining balances in both series are accounted for by the exchanges of old mortgage issues by 3% bonds of the national government. As explained before, these government bonds were already the outcome of repatriations. In practice, since the national government made its 1941 offer regarding its own dollar debt, the AMB started purchasing 3% national government bonds in U.S. open markets, at prices ranging between 28% and 40% (Table 51). The bonds so repatriated were those which appeared in the AMB offer of 1942, in exchange for its own and other mortgage bonds.

Table 62 describes the evolution of mortgage loans sold in London during 1928 and 1929. In the case of the AMB, since sinking fund payments were suspended early in 1932, the continuous decline of the series up to 1942-1944 when negotiations took place is explained by open market purchases. In 1933 the CFB reported an outstanding balance of £1,132,800, which suggests that some buybacks occurred during 1933. Later, the Manager of the AMB reported to the British negotiator in Bogota that the outstanding balance at the end of 1942 was £804,900, the difference with the 1933 balance being explained by repatriations. As a whole, repatriations between 1932 and 1944 amounted to 30% of the outstanding balance at the end of 1932. The declining balances at the end of the series are due to amortizations carried out after the settlement of 1944.

The experience of the Mortgage Bank of Bogota is different since as seen before in this section, the Sterling debt of the bank was transformed into a Colombian peso debt. In 1938 (October), the bank offered C$7,304,415 in exchange for the outstanding sterling balance of £1,760,000. Amortizations of the peso bonds were agreed to start since 1943. The table shows the declining balances of the peso bonds since 1943, but also the equivalent value in sterling since bondholders were offered that interest and sinking fund payments would be made at the rate of the day. As for repatriations in the early 1930s, the series suggests that

between the end of 1931 (remittances on account of sinking funds were suspended in February 1932, and the coupon dates of the loan were May and November), and the end of 1934, buybacks amounted to 17% of the outstanding balance on the first date.

TABLE 62

MORTGAGE BANK BONDS
STERLING DEBT
PERIOD 1928 - 1950

	(1) AGRICULTURAL MORTGAGE BANK	(2) MORTGAGE BANK OF BOGOTA	(3) MORTGAGE BANK OF BOGOTA (COL. PESOS)	(4) TOTAL (1)+(2)
1928	-	1595000		1595000
1929	1192500	2166900		3359400
1930	1175200	2137600		3312800
1931	1154700	2120100		3274800
1932	1154700	1985200		3139900
1933	1132800	1762000		2894800
1934	1096367	1760100		2856467
1935	1059934	1760100		2820034
1936	1023501	1760100		2783601
1937	987068	1760100		2747168
1938	950635	1760100	7304415	2710735
1939	914202	1760100	7304415	2674302
1940	877769	1760100	7304415	2637869
1941	841336	1760000	7304415	2601336
1942	804900	1035206	7304415	1840106
1943	804900	995391	7023476	1800291
1944	804900	934926	6596840	1739826
1945	784000	896344	6324600	1680344
1946	763100	896344	6324600	1659444
1947	750400	836117	5899640	1586517
1948	744167	836117	5899640	1580284
1949	737934	1146436	5618685	1884370
1950	731700	1089110	5337730	1820810

SOURCES.
AGRICULTURAL MORTGAGE BANK.
1929: The Stock Exchange Yearbook (1930). 1930-1933: CFB.
1934-1942: repatriation of £327,900 equally distributed along the 9-year period. 1942-1944: a constant balance is assumed during the negotiation period. For 1945 CFB reports a balance equal to that reported in 1942 by the manager of the AMB. CFB,

Correspondence files, 311-618, 2-12-42. 1945-1950: CFB, annual reports.

MORTGAGE BANK OF BOGOTA.
1928-1937: The Stock Exchange Yearbook, annual reports. 1938: Offer of settlement: C$7,304,415 bonds offered in exchange for £1,760,000 bonds. The Stock Exchange Yearbook (1939). 1939-1950: The Stock Exchange Yearbook, annual reports.

f. External debt of the banking system

Table 63 shows the evolution of total external liabilities of the banking system. The long-term liabilities are the same mortgage bonds floated abroad. Three periods can be distinguished. The borrowing boom of 1926-1930 when bonds were sold in the United States and Europe, and domestic banks enjoyed increasing access to short-term funds provided by U.S. commercial banks; 40% of the financing obtained during this period was on a short-term basis.

A second period which would last over one decade -1931-1942-, corresponded to the reduction to minimum levels of short-term foreign lending to banks, and the cut off of long-term foreign private lending. As seen, external financing to banks declined by 50% between 1930 and 1934, and while short-term loans continued at very depressed levels, the gradual decline of long-term liabilities is explained by repatriations -which for the sake of simplicity were evenly distributed over time-. Finally, the exchanges of bonds and amortizations after the settlements of 1942-1944 accounted for the ultimate decline of long-term bank debt, while short-term lending reemerged with the recovery of international lending after World War II.

TABLE 63

EXTERNAL LIABILITIES OF THE BANKING SYSTEM
1925 - 1950
(Millions of US$)

	SHORT-TERM LIABILITIES	LONG-TERM LIABILITIES	TOTAL
1925	6.93	-	6.93
1926	12.19	8.63	20.82
1927	19.06	30.83	49.89
1928	20.84	43.61	64.45
1929	29.88	51.67	81.55
1930	31.69	50.18	81.87
1931	24.63	47.15	71.78
1932	13.42	39.94	53.36
1933	9.31	38.32	47.63
1934	4.43	38.56	42.99
1935	2.69	36.53	39.22
1936	3.28	34.86	38.14
1937	5.57	32.92	38.49
1938	2.62	26.40	29.02
1939	2.59	24.42	27.01
1940	8.30	22.01	30.31
1941	9.57	20.18	29.75
1942	10.79	18.35	29.14
1943	3.06	16.12	19.18
1944	2.94	13.81	16.75
1945	2.86	11.51	14.37
1946	8.37	9.36	17.73
1947	16.64	8.47	25.11
1948	15.51	7.93	23.44
1949	13.58	6.25	19.83
1950	17.15	5.83	22.98

SOURCES.
For short-term liabilities: Informe del Superintendente Bancario. Annual Reports. For long-term liabilities: Tables 61 and 62.

g. Total external debt

Table 64 is the final summary of our previous series. It divides total debt between public debt and bank debt. It is not the same as dividing debt between public and strictly private debt since part of it was publicly guaranteed. Additionally, appart from the originally publicly

TABLE 64

COLOMBIA
EXTERNAL DEBT
PERIOD 1924 - 1950
(Millions of US$)

YEARS	(1) TOTAL GOVERNMENT DEBT	(2) DECENTRALIZED PUBLIC DEBT	(3)=(1)+(2) TOTAL PUBLIC DEBT	(4) BANK INDEBTEDNESS	(5)=(3)+(4) TOTAL
1923					
1924	28.9		28.9		
1925	29.6		29.6	6.9	36.5
1926	54.0		54.0	20.9	74.9
1927	94.5		94.5	49.9	144.4
1928	158.7		158.7	64.5	223.2
1929	162.0		162.0	81.6	243.6
1930	157.9		157.9	81.9	239.8
1931	165.9		165.9	71.8	237.7
1932	154.4		154.4	53.4	207.8
1933	148.6		148.6	47.6	196.2
1934	150.4		150.4	43.0	193.4
1935	151.0		151.0	39.2	190.2
1936	145.8		145.8	38.1	183.9
1937	140.5		140.5	38.5	179.0
1938	137.8		137.8	29.0	166.8
1939	134.7		134.7	27.0	161.7
1940	129.0		129.0	30.3	159.3
1941	126.7	8.9	135.6	29.8	165.4
1942	129.2	8.1	137.3	29.1	166.4
1943	127.3	-	127.3	19.2	146.5
1944	123.2	-	123.2	16.8	140.0
1945	122.1	2.1	124.2	14.4	138.6

1946	117.0	2.4	119.4	17.7	137.1
1947	113.3	4.1	117.4	25.1	142.5
1948	114.6	2.5	117.1	23.4	140.5
1949	109.0	6.6	115.6	19.8	135.4
1950	109.0	14.1	123.1	23.0	146.1

SOURCES.
Column (1): Table 60.
Column (2): 1941-1942: Ex-Im Bank loans to the Bank of the Republic. Triffin (1944), p.23
1945-1949: Ex-Im Bank credits to government entities. 1950: Ex-Im Bank outstanding credits, US$9.3 million; and IBRD credits, US$4.8 million. Informe del Contralor.
Column (4): Table 63.

guaranteed debt of the AMB, some settlements extended the public guarantee to loans which did not get it in the first contract.

As expected from our previous descriptions, the total external debt of the country declined gradually since the early 1930s in spite of formal declarations of default in 1932-1933. This process was caused by bond repatriations concentrated during the 1930s and early 1940s, and by the resumption of payments during the 1940s.

In the aftermath of World War II, a new source of external financing emerged. Developmental agencies were created to offer international credits on a concessionary basis. Colombia had access to this sort of resources through the Ex-Im Bank since the early 1940s, and through the World Bank since 1949. During the 1950s and 1960s, developmental agencies were to become the predominant source of foreign financing. By that time, progressively dwindling balances were the only remainder of the era of bond finance.

SECTION III

NOTES

1. The total outstanding dollar debt by the end of 1936 was of US$5.37 billion. Similarly, the outstanding amounts for Latin America, Europe, Far East and Africa, and Canada, were US$1.54 billion, US$1.66 billion, US$0.53 billion, and US$1.65 billion, respectively.

2. FBPC (1936), p.857

3. Ibid., p.860

4. Quoted by Lewis, Cleona (1938), p.421

5. Wallich, Henry (1943), p.322

6. Although the bankers' loan was originally contracted in 1930 for only one year, it was extended from time to time. Interests were fully paid. When the first round started, the maturity date of the loan was December 31, 1935.

7. The Andian National Corporation and the Frederick Snare Corporation received Promissory Notes from the national government for loans destined to finance Port Works in Cartagena.

8. Letter from the Colombian president Alfonso Lopez to Mr. J. Reuben Clark, president of the FBPC, September 8, 1934. Revista Economia Colombiana, Julio-Agosto 1987, p.93-94.

9. Letter from Mr. J. Reuben Clark to president Lopez, August 22, 1934. Revista Economia Colombiana, Julio-Agosto 1987, p.92.

10. Letter from president Lopez to Mr. J. Reuben Clark, Ibid., p.93.

11. The Secretary of the Colombian Bondholders Committee of New York -Hoover Committee- published a statement praising the attitude of the Colombian government, and indicated that he was able to announce -with the authorization of the Colombian president- that the external debt question was under consideration and plans existed to initiate negotiations with bondholders. The Journal of Commerce (New York), April 5, 1935.

12. Circular letter to the holders of external dollar bonds of the Republic of Colombia - National, Departmental, Municipal, and Mortgage Bank, and Certificates of Deposit-. June 15, 1935. CFB, Extracts Vol II.

13. Circular letter, Ibid.

14. FBPC (1936), pp.7-8

15. The Financial Times, April 24, 25, and May 22, 1935. Extracts Vol II

16. Of a total sum of about US$2.5 million of defaulted bonds, new arrangements involved US$1.8 million during 1934-1939, of which temporary settlements covered US$1.5 million. FBPC (1939), p.7

17. FBPC (1939), p.9

18. Information on repatriations is given in Memoria de Hacienda, 1942, pp.30-35.

19.The Stock Exchange Yearbook (London), 1934, p.198

20. Letter from CFB to C. Palmer, 26-7-33. CFB Correspondence, File 1.

21. Questioning of James A. Sexton, of Baker, Kellog and Co. by the SEC. The Financial Times, December 1935. Extracts, Vol II

22. Questioning of George Merzback, a partner in Hallgarten and Co., fiscal agents for the government of Colombia, December 31, 1935. Extracts Vol II

23. According to a New York newspaper, the Latin American Financial Notes edited by the Department of Commerce reported an incident in which a member of the Council of the City of Medellin was involved. "The councilman stated unequivocally that the municipality has been buying foreign debt bonds since 1932 and he noted also that such operations are prohibited under a local regulation [the foreign exchange control decree]" Herald Tribune, New York, February 5, 1935. Extracts, Vol II.

24. FBPC (1939), pp.31-32.

25. Both countries agreed to grant each other "unconditional and unrestricted most favoured nation treatment in all matters concerning customs duties" (Article 7). Reciprocal Trade Agreement between the United States of America and Colombia. Signed at Washington, September 13, 1935. The Agreement came into force on May 20, 1936. League of Nations. Treaty Series, 1936-37, Vol 169-70.

26. Letter from Mr. J. Reuben Clark to president Lopez, August 22, 1934. Ibid. The reference to European countries is probably related to the reaction of European creditors of Germany after this last country defaulted on the Young and the Dawes loans during 1933-34. The threat of imposing sanctions led the defaulter country to immediately negotiate with the creditors.

27. At the Seventh International Conference of American States in Montevideo (December, 1933), the head of the Colombian delegation, Alfonso Lopez praised the U.S. State Department policies. "The United States are beginning to follow an economic and political orientation more in conformity with the desires and more to the advantage of all the peoples of America". However, he was also cautious regarding the implications of bilateral or multilateral agreements for the removal of prohibitions and restrictions and for the reduction of tariff rates to moderate levels, as proposed by the U.S. Secretary of State Cordell Hull. "My country ...was ...in principle ready to second the initiatives of Delegate Hull in favour of a general tariff reduction...However, I have always had a great doubt whether ...the advantages of that course [for our countries] are analogous to those of the industrial countries" Randall, S. (1977) pp.35-36

28. Letter from president Lopez to Mr. J. Reuben Clark, Ibid. p.94.

29. Statement by the Assistant Secretary of State Sumner Welles, quoted in Eichengreen and Portes (1988) p.17

30. Sphere, Washington, November, 1935. Extracts, Vol II.

31. The declaration was made by Francis White, executive vicepresident (and future president) of the FBPC. The Financial Times, December, 1935. Extracts, Vol II.

32. A report of the Securities and Exchange Commission (SEC) mentioned that the Standard Oil Co. had substantial interests in Colombia through the subsidiaries Tropical Oil Co. and Andean National Corporation which were current creditors of the government. Both companies were exempt from foreign exchange controls. The SEC referred to the likely conflict between creditors since a resumption of service on the defaulted bonds could imply a loss of the exchange control exemption to the companies or even a higher taxation. Herald Tribune Bureau, April 9, 1937. Extracts Vol II.

33. The London branch of Lazard Brothers apart from issuing several loans to the government of Colombia (in 1906, 1911, 1913, 1916, and 1920), and some mortgage banks (in 1928, and 1929), became the Colombian government's fiscal agent in 1934. U.S. banks lost eagerness in serving as Colombia's fiscal agents -particularly the National City Bank-, since 1931, given the widespread collapse of foreign lending. With the implementation of the U.S. Securities Act of 1933-34 which created controls of security issuing, U.S. banks were no longer interested in official representations.

34. CFB, Correspondence, December 29, 1935, File 1.

35. CFB, Minutes, 18-3-37

36. CFB, Minutes, 25-2-37

37. CFB, Minutes, 25-2-37

38. The economic adviser Herbert Feis added: "My intervention, authorized by Secretary Hull, to persuade the officers of the organization to accept terms proferred by the debtors, led to acrimonious talks". Feis, H (1966) p.276. Regarding the attitude of the State Department in the immediate years before negotiations started, it can be added that based on official declarations of willingness to normalize the debt service, the department opted for anticipating the first move on the side of the Colombian government. Randall (1977), p.83.

39. CFB, Minutes, 18-3-37. Niemeyer himself became a member of the Colombian bondholders' committee organized by the CFB.

40. Quoted by Randall, S. (1977), p.84 from a letter from Cordell Hull to the president of the Yale University. Dana Munro was to become a member of the board of directors of the FBPC, and vicepresident in 1939.

41. "It is neither our intention nor desire to have Dr. Munro deal with the sterling bonds... While we appreciate that any dealings which we may have in any given situation over dollar bonds may affect the sterling issues, we nevertheless try and have tried consistently to make clear to the foreign governments...that we are dealing only for the dollar bonds and that they must make their arrangements about sterling and other issues with those whose responsibility it is to deal". CFB, Minutes, 27-5-37.

42. CFB, Minutes, 27-5-37 and 24-6-37

43. According to Randall, S. (1977), some time before Munro's mission was arranged, the president of the FBPC, J. Reuben Clark blamed president Lopez of Colombia for the current deadlock of the external debt question. Randall summarizes Clark's position indicating that Lopez, "bitter about the obstructionism of the Santos wing of the liberal party, was satisfied to leave the debt as a legacy to his successor". Ibid. p.83. Later, while the Munro's mission was taking place, the Colombian comptroller Lleras Restrepo expressed to Munro that- again according to Randall's words- "Santos was certain to succeed Lopez, and the Santistas in Congress would combine with the conservatives to defeat a Lopez proposed agreement ...Even had Lopez been prepared to conclude an agreement with the FBPC there was no assurance that he could have imposed its terms on Congress" Ibid. p.84. Although Clark's interpretation blamed Lopez, and the second incriminated the opposition to the government,

the result appeared to be the same, namely, that a solution to the debt question under the Lopez administration lacked political chance.

44. Memoria de Hacienda, 1942, p.139.

45. This comment by Randall (1977) p.84 corroborates the previous testimony by Feis. Nota 38.

46. The Memoria de Hacienda (1942) p.139, and Randall (1977) p.84, suggest that it was the new president of the FBPC, Francis White who took the initiative of discontinuing negotiations after the outbreak of the Brazilian coffee crisis. The British CFB noted however, that it was a mutual agreement: "it was felt both by the Colombian government and by the FBPC representatives that it would be better to defer conversations until the reactions of Brazil's new policy on the Colombia's coffee position... should become apparent". CFB, Correspondence 23-6-38, File 1.

47. Quoted by Randall (1977) p.84

48. With reference to Table 49 above, it can be recalled that only 33% of the sterling debt of Colombia was represented by direct loans to the national government. An additional 27% was represented by the publicly-guaranteed debt of the Agricultural Mortgage Bank. Further negotiations between the CFB and Colombia would refer to these credits.

49. The outstanding balance was obtained from The Stock Exchange Yearbook, 1939, p.543; the exchange rate at the time of the settlement from CFB (1938) p.187; and the quotation of the debt from The Financial Times, 12-10-38, editorial comment.

50. The Stock Exchange Yearbook (London), 1939 edition, p.543, and 1941 edition, p.529.

51. Quoted in CFB, Minutes, 14-7-38.

52. CFB (1938) p.37-38

53. Ibid. p.38

54. CFB, Minutes, 14-7-38

55. The Financial Times, 12-10-38

56. The Stock Exchange Yearbook (London), 1939 edition, p.543 and 1942 edition, p.517.

57. The price of the pound sterling in terms of Colombian pesos declined from C$8.37 in 1938 to C$7.05 at the end of 1943, and continued relatively constant at this last level until 1948.

58. Quoted in CFB, Minutes, 17-11-38

59. Memoria de Hacienda, 1940, p.139

60. CFB, Minutes, 17-11-38

61. The South American Journal, 7-10-38. Extracts, Vol II

62. Randall, Stephen J. (1985) Chapters 4, 5, and 6.

63. CFB, Minutes, 22-6-39. The declaration of the finance minister is quoted from a translation of a statement published in El Tiempo (Bogota) of 26-5-39. Regarding the Brazilian negotiation in 1939, the U.S. agreed to extend up to US$19.2 million to the Banco

do Brazil through the Ex-Im Bank, while the Brazilian government expressed its intention of resuming debt service payments on July 1, 1939. On this date, the government made a token payment of US$1 million in New York, while informing to the creditors of its intention of resuming payments in the future. Abreu (1978) p.122

64. CFB, Correspondence, 311-337. Extracts from The New York Times, 28-10-39.

65. CFB, Correspondence, 311-337. Extracts from The New York Times, 31-10-39, and 5-11-39.

66. "We deplore the fact that the administration, in its desire to open new credits to governments whose credit standing is notably bad, ... should falsely blame [bondholders'] representatives for failure which is directly attributable to the Administration's flabby policy of unwillingness to do anything to help American interests abroad". CFB, Correspondence, 311-337. Extracts from The New York Herald Tribune, 2-11-39.

67. Regarding Colombia, The New York Herald Tribune stated that "if the unsound principle of official advances is to be used at all, it ought not to be used with respect to Colombia. 11-11-39. Extracts Vol II

68. In a letter to the editor of The New York Times, the ambassador rebutted an article under the headline "Colombian Loan held up" according to which the Eximbank was holding up a loan to Colombia because although in a position to do so, the country was not servicing its debt. "The truth of the situation, which is generally ignored [the ambassador alleged], is that Colombia has for the last two years been endeavouring to renew the service of its dollar obligations as is proved by the fact that since 1937 a definite offer was made to the FBPC". The New York Times, 9-10-39. Later, the ambassador who was in process of retiring from his position, declared that he was "100 per cent" in agreement with president Roosevelt's criticism of the FBPC. Summarizing his negotiating experience, he indicated that "our proposal does not imply any scaling down of principal, but a reduction of interest ... It is very hard if you make a proposal after considerate study, and you stand by that proposal you are accused of presenting an ultimatum. Then, if you start low and work upward, you are accused of trying to bargain like a peddler". The New York Times, 31-10-39.

69. These details are summarized from Randall (1977) pp.85-87.

70. CFB, Minutes, 23-6-38

71. Letter to Mr. Francis White, president of the FBPC, 11-7-38, reproduced in CFB, Minutes, 14-7-38.

72. CFB, Minutes, 17-11-38

73. CFB, Minutes, 14-7-38. Eventually, the trade negotiations broke down but Colombia accepted to continue with the existing arrangements by which Britain took practically no Colombian goods although Colombia was an important market for Manchester textiles.

74. Letter from Lord Bessborough, president of the CFB to Mr. Reuben Clark, president of the FBPC, 23-6-37, quoted in CFB, Minutes, 1939.

75. CFB, Minutes, 23-6-38.

76. CFB, Minutes, 23-6-38.

77. The main customers of Brazilian exports in 1937 were the USA, Germany and the U.K. with 36%, 17% and 9% respectively. CFB (1938), p.133

78. CFB, Minutes, 16-3-39.

79. Conversation between the ambassador to Colombia, M. Paske-Smith, and the Secretary of the CFB's Colombian committee, E. Butler, 3-4-39. CFB, Correspondence, 311-306, 4-4-39.

80. CFB, Correspondence, letter from Lord Bessborough, president of the CFB to Francis White, president of the FBPC, 311-308, 25-4-39. According to the CFB, the principle had been agreed by all present at the Conference of Bondholders Associations in Paris, in June 1938. Later the FBPC pointed out that because of the large number of bonds floated in the U.S., its representative at the Conference had abstained from taken a position which would favour some categories of bonds over the rest.

81. The CFB recalled how the 1934 Aranha Plan for Brazil had given a higher grade to secured loans than to unsecured loans, and how, among other things, some dollar loans were secured and some of the sterling were not.

82. CFB, Correspondence, letter from the president of the FBPC to the president of the CFB, 311-328, 19-10-39.

83. CFB, Correspondence, letter from the president of the CFB to the president of the FBPC, 311-328A, 29-11-39.

84. CFB, Correspondence, letter from the president of the CFB to the president of the FBPC, 311-314A, 5-6-39.

85. Memoria de Hacienda, 1940, p.140.

86. CFB, Correspondence, letter by Paske-Smith to the Foreign Office dated the 24th November, 1939, quoted in a letter of the Foreign Office to the CFB, 311-351, 15-2-40.

87. CFB, Correspondence, letter from the CFB to the FBPC, 311-338, 13-12-39.

88. CFB, Correspondence, letter from the CFB to the Foreign Office, 311-339, 13-12-39.

89. CFB, Correspondence, letter from the FBPC to the CFB, 311-338R, 17-1-40.

90. CFB, Correspondence, letter from the Foreign Office to the CFB, 311-351, 15-2-40.

91. CFB, Correspondence, letter from the CFB to the Foreign Office, 311-339, 13-12-39.

92. As seen in Table 29, Barranquilla's loans between 1925 and 1929 were sold at the highest interest rates (8%) and lowest average maturity (17 years) amongst other municipal loans. Default on sinking fund and interests was complete by January 1, 1933, and the principal of one of the loans (Series A, contracted in 1925 with a length of life of 10 years) was defaulted on June 1, 1935.

93. FBPC (1941-1944), p.334.

94. Memoria de Hacienda, 1940, p.140.

95. CFB, Correspondence, letter by Paske-Smith to the Foreign Office dated the 24th November, 1939, quoted in a letter of the Foreign Office to the CFB, 311-351, 15-2-40.

96. "How is your Colombia financing and credit scheme coming along", Secretary Morgenthau was asked at his press conference this morning.
"Still cooking", he replied.
"In gas?"
"No, in oil, I guess", the Secretary answered, smiling.
The New York Times, 22-12-39. Extracts, Vol II

97. Memoria de Hacienda, 1940, p.140

98. Randall (1977) Ibid. p.87

99. The offer to the bondholders was made in Washington on February 19, 1940. Previously, on February 15, the government issued the Decree No 305 authorizing the provisional agreement with the FBPC. The securities repatriated for about US$6 million were in the hands of the government since 1932-33, and therefore they had not been cancelled and retired by the paying agents of Colombia in the United States. In a letter from the Colombian ambassador in Washington to the FBPC regarding the repatriations, it was assured that detailed account of the process of repatriations had been given to the Security and Exchange Commission. Letter of 27-2-40 quoted in FBPC (1944) p.321.

100. Statement by the FBPC referring to the offer of 19-2-40. FBPC(1939) p.31.

101. Memoria de Hacienda, 1940, p.147.

102. Memoria de Hacienda, 1940, p.147.

103. Memoria de Hacienda, 1941, p.29

104. Randall (1977), p.87

105. Department of State. Release to the Press No 564, 30-12-40. Published as a document in FBPC (1944) p.322-23.

106. The draft of the department's press release was more revealing about the government's role in the negotiations:
"The Treasury Department, the Federal Loan Agency, and the Department of State have not been, and are not now, parties to the proffered settlement. They have acted only as friendly intermediaries ... (However, in view of their detailed knowledge of every aspect of the Colombian debt situation, and of their concern at continued failure to reach a permanent settlement, these agencies recommend the present offer to the consideration of the bondholders)". Randall (1977) p.87-88.

107. Offer, 5-6-41, by the Republic of Colombia of new 3% bonds due 1970 in exchange for outstanding 6% dollar issues due 1961, and convertible certificates for half of past due interest. FBPC (1940) p.31-32.

108. Republic of Colombia. 3% External Sinking Fund Dollar Bond (Dated as of October 1, 1940. Due October 1, 1970). Form of Bond. FBPC (1944) p.326.

109. FBPC, Release to the Press, 31-12-40. CFB, Correspondence, 311-433. The direct allusion to the U.S. government in the last quotation in the paragraph appears in the FBPC press release of 31-12-40, but was eliminated from the official statement of the FBPC issued on 5-6-41 after the Offer was published. In this last version the quotation is "the Council does not feel justified in expecting that the Colombian government will make any more favourable proposal to the bondholders". FBPC (1940), p.33

110. According to the minister of finance, the right to stop payments under pressing economic and fiscal circumstances was a crucial component of the basis. Given the uncertain economic context of 1940, "it was made clear to negotiators of both sides that the decree indicating the maximum basis for a definitive agreement would not be issued unless that authorization [to stop payments] was included". Memoria de Hacienda, 1940, p.147.

111. As part of his explanation of the provisional agreement, the minister of finance said that "as a reduction in the capital of the debt was not made, it is well to record that the price of the

bonds in the market is not the same for a 6% bond as for a 3% bond and that as the Republic can acquire in the open market the bonds which it must amortize, by the sole fact of reducing the interest the capital is reduced". (Memoria de Hacienda, 1940. p.137). It is to be noted that the criticism made by the FBPC to this statement was produced only after the basis of the offer proved to be against the expectations of the council.

112. Memoria de Hacienda, 1942, pp.30-32. FBPC (1944), pp.310-314. FBPC (1945) p.55. As Table 51 shows, the positive reaction of bondholders to the Offer and the resumption of debt service since 1941 rapidly increased the quotations of old bonds. Additionally, because the amortizations of new bonds were to be carried out through open market operations, the quotations of those securities rose continuously since 1941.

113. Among the national sources, Informe del Gerente del Banco de la Republica, IGBR, 1941. For sources of world-wide consultation, FBPC (1944), pp.309, 314.

114. FBPC (1944), pp.309, 313. The Colombian minister of finance expressed that the amounts given in the text -US$5.4 million for the guaranteed debt and US$5.5 million for the non-guaranteed- were the "likely amount of bonds in circulation". Memoria de Hacienda, 1942, p.67. Finally, a statement by a member of the Institute of International Finance confirmed the figures given in the text and advanced the hypothesis that the repatriations had been "most probably exchanged for peso bonds". The statement is quoted in a letter to one of the Joint Secretaries of the CFB. CFB, Correspondence, 311-589, 5-8-42.

115. Offer to the holders of bonds of the Agricultural Mortgage Bank (AMB), Bank of Colombia, Mortgage Bank of Colombia, Mortgage Bank of Bogota, dated June 25, 1942. FBPC (1944) pp.345-347.

116. Department of State. Release to the Press No 316, 25-6-42. Statement by the Secretary of State. Published as a document in FBPC (1944) p.348.

117. Statement by the FBPC regarding the Offer by the AMB and other banks. 25-6-42. FBPC (1944) pp.348-349.

118. FBPC (1949) p.137

119. As seen above, well before the provisional agreement was reached (February, 1940), the CFB was informed by the ambassador in Bogota about hints conveyed to Colombia by the State Department, which would turn out to be quite similar to the basis adopted by Colombia in December 1940, and the offer of June 1941. By using other channels, the CFB also knew in advance the agreement of the State Department with the Colombian offer, before that department's statement was published (CFB, Correspondence, 311-429, 23-12-40).

120. CFB, Minutes, 4-12-41.

121. Since 1939 (January 19) it had been decided by the CFB's Committee on Colombia that the manager of the Bank of London & South America in Bogota should hold himself at the disposal of the ambassador at Bogota to assist in any such discussions. CFB, Minutes, 19-1-39. In April 1940, the CFB agreed to the desire of the Colombian government that negotiations should take place in Bogota, and then Mr. Thompson was appointed the council's representative.

122. CFB, Correspondence, letter from the Foreign Office to the CFB, 5-1-40.

123. CFB, Correspondence, letter from E. Butler, Joint Secretary of the CFB to ambassador in Bogota, Mr. Paske-Smith, 311-414, 2-7-40.

124. CFB, Correspondence, letters to the Treasury Chambers from the Secretaries of the CFB, 311-393, 15-04-40, and 311-397A. Ibid. from an official of the Bank of England, 311-

395. Replies from the Treasury Chambers to the CFB, 311-397, 16-4-40, and 311-411, 27-6-40.

125. See note (79) above.

126. CFB, Correspondence, letter form the British negotiator in Bogota, Arthur Thompson to the Head Office of the Bank of London and South America in London, 18-6-40.

127. The minister of finance exposed the gravity of the economic situation of the country to both the ambassador and the negotiator by saying that "although the Colombian government fully intended eventually to treat British debt on the same terms as American, conditions had changed since provisional settlement made about the latter...Economic conditions were now so bad in Colombia that... it would be difficult to justify any aggravation of foreign exchange shortage and additional fiscal burden at the moment when disbursements are being drastically curtailed unless some counter benefit could be pointed to, such as a new market for coffee". Telegram to the Foreign Office by ambassador Paske Smith, 14-6-40. CFB, Correspondence.

128. Ibid.

129. CFB, Correspondence, letter from the British negotiator in Bogota to the Head Office of the Bank of London and South America, 18-6-40.

130. Draft of Telegram from the Treasury to Paske-Smith. CFB, Correspondence, letter from the Treasury to the CFB, 311-411, 27-6-40. The message had to be disappointing for the financial alternatives of the Colombian government, but also for those who expected British credits as a counterbalance to the new dollar loans through the Ex-Im Bank. In a communication to the Foreign Office, it was mentioned that the Colombian minister for foreign affairs, Lopez de Meza, had stated that "he had been anxious to obtain English capital as an offset to the introduction of capital from the United States" but he had been replied that "the war had made it impossible for industrial capital to be spared from the United Kingdom". Quoted in letter from the Foreign Office to the CFB. CFB, Correspondence, 311-404, 18-5-40.

131. Early in 1939 ambassador Paske-Smith mentioned the convenience for bondholders of converting the sterling debt into pesos. Although it was understood that the CFB would not accept a settlement in pesos, Paske-Smith did not vacilate to indicate it would be a good business due to the prospects of appreciation of the peso. Albeit it seems to be that a peso conversion was not part of formal negotiations, it had conspicuous sympathyzers on the British side, such as the ambassador in Bogota. For reference, note (79) above.

132. CFB, Correspondence, note (126) above.

133. CFB, Correspondence, letter from A. Thompson to the Head Office of the Bank of London and South America (BLSA), 311-478, 23-10-41.

134. Ibid.

135. Ibid.

136. Letter from A. Thompson to the Head Office of the BLSA, 31-10-41, quoted in CFB, Minutes, 4-12-41.

137. CFB, Minutes, 4-12-41. It was suggested that the lump-sum figure could be of about 4% of the outstanding sterling debt, somewhat less than the annual percentage payment on the dollar loans. This less ambitious figure could compensate the Americans for any advantage gained by the British through a cash redemption of overdue interest.

138. Ibid.

139. Memorandum from the minister of finance to the CFB, 27-2-42. CFB, Correspondence, 311-508.

140. CFB, Correspondence, letter from A. Thompson to the Head Office of the BLSA, 311-519, 15-4-42.

141. CFB, Correspondence, 311-520, 26-5-42

142. The Decree No 1578 of 1942 (July 2) projected the renewal of the sterling debt service. On July 3, the CFB announced the agreement and that a formal offer would shortly be made. FBPC (1944), pp.328-330. For the reaction of the minister of finance and further comments by the CFB, CFB Correspondence, 311-565, 20-6-42, and 311-565A, 7-7-42.

143. CFB, Correspondence. The sentence between quotation marks is due to the British negotiator in Bogota, and not taken from any official British document. Letter from A. Thompson to the Head Office of the BLSA, 311-578, 4-7-42.

144. As seen before, in the case of the American offer the old bonds of the Bank were exchanged by new 3% government bonds; these bonds did not represent an original issue but the result of redemptions already carried out. This procedure could not be repeated in Britain since in the settlement of the government debt there was not conversion of the old issues into new bonds. Additionally, even if the Bank's bondholders accepted overstamped bonds of the various sterling issues in exchange, the actual exchange would be impeded by the fact that both the national government debt and the Bank's debt were of similar size.

145. CFB, Correspondence, Telegram sent by A. Thompson to the Head Office of the BLSA, 311-612, 18-12-42.

146. CFB, Correspondence, 311-618, 2-11-42.

147. CFB, Correspondence, letter from the Joint Secretary of the CFB to the British negotiator in Bogota, 311-618A, no date.

148. In Colombia, the Bank of the Republic was publishing the balance due by the AMB, net of repatriations, at least since 1940. For this year the outstanding balance according to that source was £868,400. IGBR (1941).

149. Resolution No 67 of 1940 of the Council of Bogota on the resumption of the payments on the external debt. FBPC (1944) p.339

150. A meeting of bondholders took place in New York at the office of the Central Hanover Bank which acted as a Trustee of the loans, on January 3, 1941, to discuss the Resolution No 67 of 1940 of the Council of Bogota. FBPC (1944), p.339-40.

151. Department of State, Release for the press No 574, November 21, 1944, FBPC (1944), p.342.

152. Statement by the FBPC, November 22, 1944. FBPC (1944) pp.342-343.

153. FBPC (1949), p.141.

154. Statement released to the press by the Colombian negotiators, at Bogota, on April 30, 1947. Reproduced in FBPC (1949), p.149

155. Release to the press by the FBPC, at New York, May 3 1947. Reproduced in FBPC (1949), p.150

156. In Colombia, the Law 50 of 1947 (December 22) authorized the national government to grant the Nation's guaranty on the new external bonds to be issued by the six departments and two municipalities. By reason of such guarantee the proposed offer of settlement had to be registered with the Securities and Exchange Commission. Since this process had not been completed during 1948, a joint statement was released by the Colombian ambassador at Washington and the FBPC, on December 31 1948, according to which every effort was still being made to complete legal requirements in the Securities and Exchange Commission. Finally when the official offer was made on November 23, 1949, the FBPC ratified the recommendation of the terms of the offer. FBPC (1949) pp.150-55.

157. FBPC (1949) p.138, and FBPC (1950) p.65.

158. Release to the press by the FBPC, at New York, May 3 1947. Reproduced in FBPC (1949) p.150.

159. Among the Colombian official sources the Informe Financiero del Contralor and the Informe del Gerente del Banco de la Republica are to be mentioned. Among foreign sources, the original agents of most departments, municipalities and banks failed to publish accurate balances even after the settlements were made. However it has to be considered that the main sources of those agents were the Colombian debtor entities which failed to reconcile their records. FBPC (1952) p.70.

160. According to Table 51 the quotations of the dollar debt raised from a range of 43 1/2 - 30 in 1941 to 69 1/2 - 57 1/4 in 1944.

STATISTICAL APPENDIXES

COLOMBIAN LOANS FLOATED IN GREAT BRITAIN (1900-1929) AND THE UNITED STATES (1920-1929)

APPENDIX

COLOMBIAN LOANS FLOATED IN GREAT BRITAIN

I. PERIOD 1900 - 1920

BORROWER	NOMINAL VALUE (£)	DATE	MATURITY YEARS	INTEREST RATE (%)	PRICE TO BANKER	PURPOSE	BANKERS
Republic	300,000	1906	36	5	N.A.	Conversion of Paper Currency[1]	Lazard Brothers
Republic	300,000	1911	30	6	80	([2])	Alsacienne
Republic	1,468,958	1913	34	6	N.A.	Exchange for securities of Colombian National Railway.	Lazard Brothers
Republic	80,000	1916	67	5	N.A.	Purchase of Colombian Central Railway	Lazard Brothers
Republic	428,580	1920	34	6	70	Purchase of Northern Central Railway	Lazard Brothers

II. PERIOD 1921 - 1930

BORROWER	NOMINAL VALUE (£)	DATE	MATURITY YEARS	INTEREST RATE (%)	PRICE TO PUBLIC	PRICE TO BANKER	BANKERS' SPREAD	PURPOSE	BANKERS
AGRICULTURAL MORTGAGE BANK	1,200,000	APR.1929	30	6.5	95	89	6	Agriculture and urban developments	Lazard Brothers
MORTGAGE BANK BOGOTA	1,600,000	MARCH 1928	30	7	92.5	86.5	6	Agriculture and urban developments	Lazard Brothers
MORTGAGE BANK BOGOTA	600,000	JAN.1929	30	7	96.75	95.5	1.25	Agriculture and urban developments	Lazard Brothers

NOTES

1. £187,120 was issued to the public in 1906, the remainder being disposed of privately in 1909.
2. The loan was contracted with the Z.A.L. Syndicate at 80 and issued by the Banque Alsacienne in Paris at about 97.75. This means that the bankers'spread was 17.75.

APPENDIX

COLOMBIAN LOANS FLOATED IN THE UNITED STATES

PERIOD 1920 - 1929

I. NATIONAL GOVERNMENT

NOMINAL VALUE (US$)	DATE	MATURITY YEARS	INTEREST RATE (%)	PRICE TO PUBLIC	PRICE TO BANKER	BANKERS' SPREAD	PURPOSE	BANKERS
445,307	MAY,1920		7.0				Purchase of Locomotives[1]	
5,000,000	NOV.1922	5	6.5	98	93.5	4.5	Retire floating debt and others[2]	Blair, Co., N.Y.
10,000,000	AUG.1926	1/2	5.5	98	96	2.0	Not stated[3]	
25,000,000	SEPT.1927	33	6.0	92.5	91.18	1.32	Retire short-term loan and public works[4]	Hallgarten, Co.
35,000,000	MAR.1928	33	6.0	95	91.3	3.7	Highway construction	Hallgarten, Co.

NOTES

1. Direct credit by a U.S. Locomotive Co.
2. Refunding of floating debt, US$1,000,000
3. Bankers'advance repaid from US$25,000,000 loan in 1927
4. Refunding of US$10,000,000

APPENDIX

COLOMBIAN LOANS FLOATED IN THE UNITED STATES

PERIOD 1920 - 1929

II. DEPARTMENTAL GOVERNMENTS

	NOMINAL VALUE (US$)	DATE	MATURITY YEARS	INTEREST RATE %	PRICE TO PUBLIC	PRICE TO BANKERS	BANKERS' SPREAD	PURPOSE	BANKERS
ANTIOQUIA	3,000,000	OCT.1925	20	7	90	83	7	Retire debt and for railroads	Blair Co
	6,000,000	APR.1926	20	7	96.5	85.25	11.25	Retire debt and for railroads	Blair Co
	3,000,000	OCT.1926	20	7	93	85	8.0	Retire debt	Blair Co
	2,500,000	FEB.1927	20	7	96.5	92	4.5	Railroads	Blair Co
	4,000,000	JUL.1927	30 1/2	7	93	91.75	1.25	Retire internal debt. Highways	Guaranty Co
	4,000,000	NOV.1927	30 1/2	7	94.25	92.05	2.20	Retire internal debt. Highways	Guaranty Co
	3,750,000	FEB.1928	20	7	95.50	91	4.50	Retire internal debt. Highways.	Blair Co
	4,350,000	JUN.1928	30	7	96.50	92.25	4.25	Retire debt. Highways	Guaranty Co
	1,750,000	JAN.1929	20	7	93.0	88.0	5.0		Blair Co
CALDAS	6,000,000	MAR.1926	20	7.5	95.5	83.5	16.5	Railways and roads	Blyth, Witter
	4,000,000	NOV.1926	20	7.5	98.0	85	13	Railways and roads	Blyth, Witter
	200,000	AUG.1927	19	6	N.A.	100		Not stated[5]	
CAUCA-VALLEY	1,400,000	JUL.1922	10	7	N.A.	N.A.		Port Works	
	2,500,000	OCT.1926	20	7.5	96.5	84.5	12	Retire debt. Highways[6]	Seligman, Co
	1,500,000	JUL.1927	20	7.5	98.0	90.0	8	Railways and highways	Seligman, Co
	4,500,000	SEP.1928	20	7.0	96.0	89.0	7	Public Works	Baker, Kellog
CUNDINAMARCA	3,000,000	DEC.1926	20	7.0	N.A.	N.A.		Railways	
	750,000	1928						General expenses[7]	
	12,000,000	JUN.1928	30	6.5	93.5	88.0	5.5	Retire debt. Highways[8]	Seligman, Co
SANTANDER	2,000,000	OCT.1928	20	7	94	88.66	5.34	Public Works	Redmon Co

TOLIMA	2,500,000	JAN.1928	20	7	93.5	88.5	5.0	Retire debt. Highways	Redmon Co

NOTES

5. Probably bankers' advance
6. Refunding of US$750,000
7. Bankers' advance
8. Refunding US$3,500,000

APPENDIX

COLOMBIAN LOANS FLOATED IN THE UNITED STATES

PERIOD 1920 - 1929

III. MUNICIPAL GOVERNMENTS

	NOMINAL VALUE (US$)	DATE	MATURITY YEARS	INTEREST RATE (%)	PRICE TO PUBLIC	PRICE TO BANKERS	BANKERS' SPREAD	PURPOSE	BANKERS
BARRANQUILLA	500,000	AUG.1925	10	8	99	86	13	Public Works	Central Trust, Illinois
	500,000	DEC.1925	15	8	100	87	13	Public Works	Central Trust, Illinois
	500,000	1926	20	8	101	88	13	Public Works	Central Trust, Illinois
	500,000	1928	20	8	102	89	13	Public Works	Central Trust, Illinois
	500,000	1929	20	8	99	88	11	Public Works	Central Trust, Illinois
BOGOTA	6,000,000	OCT.1924	21	8	98	87.5	10.5	Retire debt. Public Works	Dillon, Read
	2,700,000	JUL.1927	20	6.5	91	85	6	Public Services *	Baker, Kellog
CALI	2,000,000	JUL.1927	20	7	93	86	7	Retire debt. Public Works	Marshall, Field
	635,000	MAY.1928	20	7	97	86	11		Marshall, Field
	250,000	1929	20	7	N.A.	87			Marshall, Field
MEDELLIN	2,500,000	1920	3 1/2	6	N.A.	N.A.		Public Works[9]	
	3,000,000	JUN.1924	25	8	98	90	8	Public Utilities Retire debt[10]	
	3,000,000	DEC.1926	25	7	93.25	85	8.25	Public Utilities	Hallgarten
	9,000,000	JUN.1928	26	6.5	93.25	89.12	4.13	Public Utilities. Retire external and internal debt[11]	Hallgarten

NOTES

9. Retired by US$3,000,000 loan of 1924.
10. Refunding of US$2,500,000
11. Refunding of US$2,726,000

* To reimburse the city for the purchase of light and power companies.

APPENDIX

COLOMBIAN LOANS FLOATED IN THE UNITED STATES
PERIOD 1920 - 1929

IV. CORPORATE DEBT

A. WITH GOVERNMENT GUARANTEE

	NOMINAL VALUE (US$)	DATE	MATURITY YEARS	INTEREST RATE (%)	PRICE TO PUBLIC	PRICE TO BANKERS	BANKERS' SPREAD	PURPOSE	BANKERS
AGRICULTURAL-MORTGAGE BANK	3,000,000	APR.1926	20	7	94	85	9	Agriculture. Working capital.	Dillon, Read
	3,000,000	JAN.1927	20	7	97.75	90.4	7.35	Agriculture. Working capital.	Hallgarten
	5,000,000	AUG.1927	20	6	92	88.5	3.50	Agriculture. Working capital.	Harriman
	5,000,000	APR.1928	20	6	93.5	89.8	3.70	Agriculture. Working capital.	Harriman

B. WITHOUT GOVERNMENT GUARANTEE

BANK OF COLOMBIA	2,000,000	MAY.1927	20	7	N.A.	89.25		Working capital	
	1,050,000	MAY.1928	20	7	N.A.	88.37		Working capital	
MORTGAGE BANK OF BOGOTA	3,000,000	MAY.1927	20	7	N.A.	88.75		Working capital	
	3,000,000	OCT.1927	20	7	N.A.	88.0		Working capital	
MORTGAGE BANK OF COLOMBIA	6,000,000	NOV.1926	20	7	N.A.	88.0		Working capital	
	3,064,000	FEB.1927	20	7	N.A.	91.0		Working capital	
	4,000,000	NOV.1927	20	6.5	N.A.	85.0		American shares	

SOURCES: Rippy (1931), Marichal (1989), Appendix C.

FINAL THOUGHTS

Historians of economic analysis argue that unlike the case in natural sciences, the issues confronted by economists are permanently changing not only because economies change over time, but because new social and political situations challenge the ability of economists to offer the explanations the public expect from them. In this work we have argued that public debt is one of those areas of interest of the profession in which the influence of changes in the economy on the subjects of debate is apparent.

Our scrutiny has traced back six decades of public debt theorizing since the outbreak of the great depression in the late 1920s. Our aim has been to place that theorizing into perspective, by reviewing the achievements of the debaters with reference to the changing economic environments in which they wrote, and the challenges faced by the profession. We tried to identify central lines of research and controversy and to highlight individual contributions to the theory of public debt. The results of this work were offered to the reader in Part I.

To a great extent the theoretical debates discussed in Part I arose in connection with events and political realities in industrialized economies. In the last decade and a half theorists were captivated by the resurgence of high debt indicators in developed economies, and the outbreak of international debt problems. International economists addressed a variety of topics which involved not only the highly contentious issue of repudiation, but also the possibility of a global problem of "debt overhang", and the viability of writing down the debt principals.

Interestingly, professional economists and historians looked back to experiences of high internal debts in advanced economies, and a great deal of research was dedicated to interpret

former external debt crises, and derive possible lessons for the present. Some researchers explored parallels between foreign debt crises in the 19th century and the 1980s, but it was the external debt crisis of the 1930s which attracted most attention. In a nutshell, under the pressure of events, economists and historians have revitalized the importance of studies in historical perspective.

In Part II, Part III, and Part IV, we looked back to the Colombian experience with public debt, as an essay on economics in historical perspective. Based on historical documentation (quantitative and qualitative), part of it still unpublished, we defined the elements of a model which could guide us in our empirical and historical inquiries. A crucial point in the definition of this model is the different role played by the internal and the external debt. The documentation suggests that authorities have tended to prefer the external indebtedness to the internal debt, and that institutional restrictions on the access of the government to the credit of the central bank have been characteristic in the Colombia's case. Only under extreme contingencies, such as severe external shocks, the internal public debt should increase on a temporary basis so as to cushion the adverse effects of the external shocks on economic activity and the stability of the financial sector. Our econometric discussions in Part III supported this hypothesis of the shock absorber role of the internal public debt, and our historical perusal in Part IV, Section II documented the relevant facts during the world depression which affected Colombia during the 1929-34 period.

Regarding the external debt, two central ideas stand out throughout the historical documentation, namely, that the access to foreign financing has been largely determined by cycles in external lending markets, and that a long-term relationship between Colombia and her creditors has existed since the period of Pax Britannica despite collapses of foreign lending and episodes of default. The key to the survival of such a long-term relationship has been the mechanism of debt recontracting through a variety of forms. The Colombian experience during the 1930s and 1940s which was chronicled in Part IV, Section III, is

illustrative of a diversity of forms of renegotiating debt contracts, which included rescheduling, buybacks, new loans, and reduction of interest rates.

Overall, the common factor of these essays on public debt -the theoretical debates and the Colombian experience- is the historical perspective. During the last decade, studies of this class have improved the understanding of the political economy of the public debt. To what extent our perusal has made its own contribution is a matter for the reader to decide.

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